

A Colder War: Russia in the Arctic

# Newsweek

03.06.2015

THE  
LAST  
BOND  
BAD  
GUY



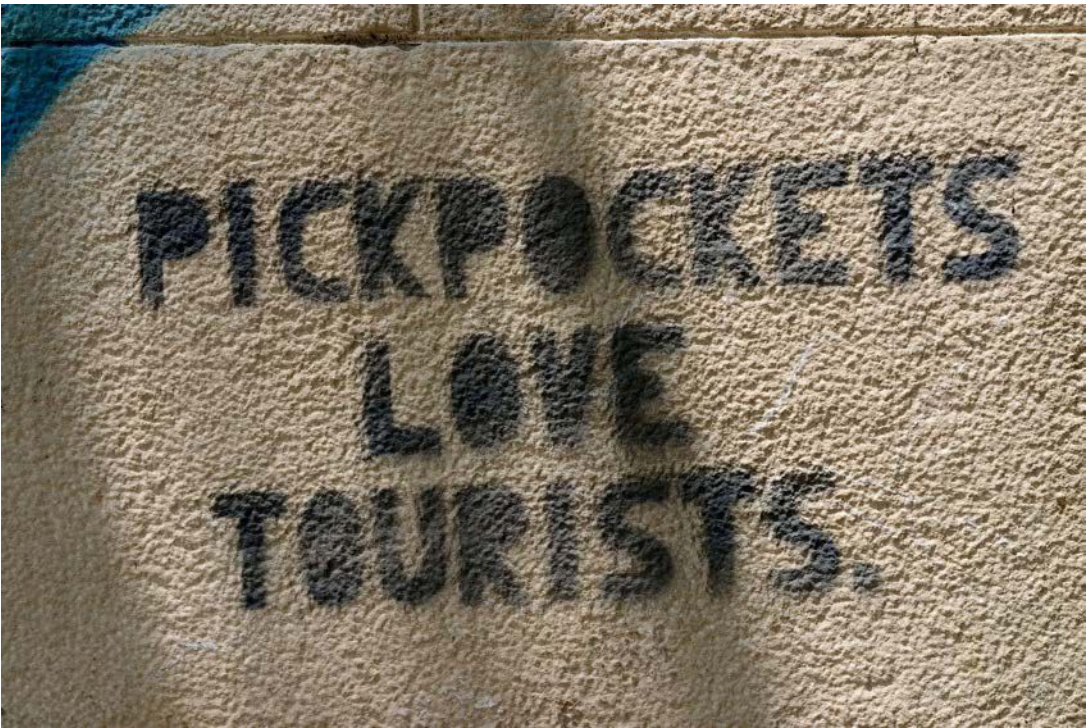
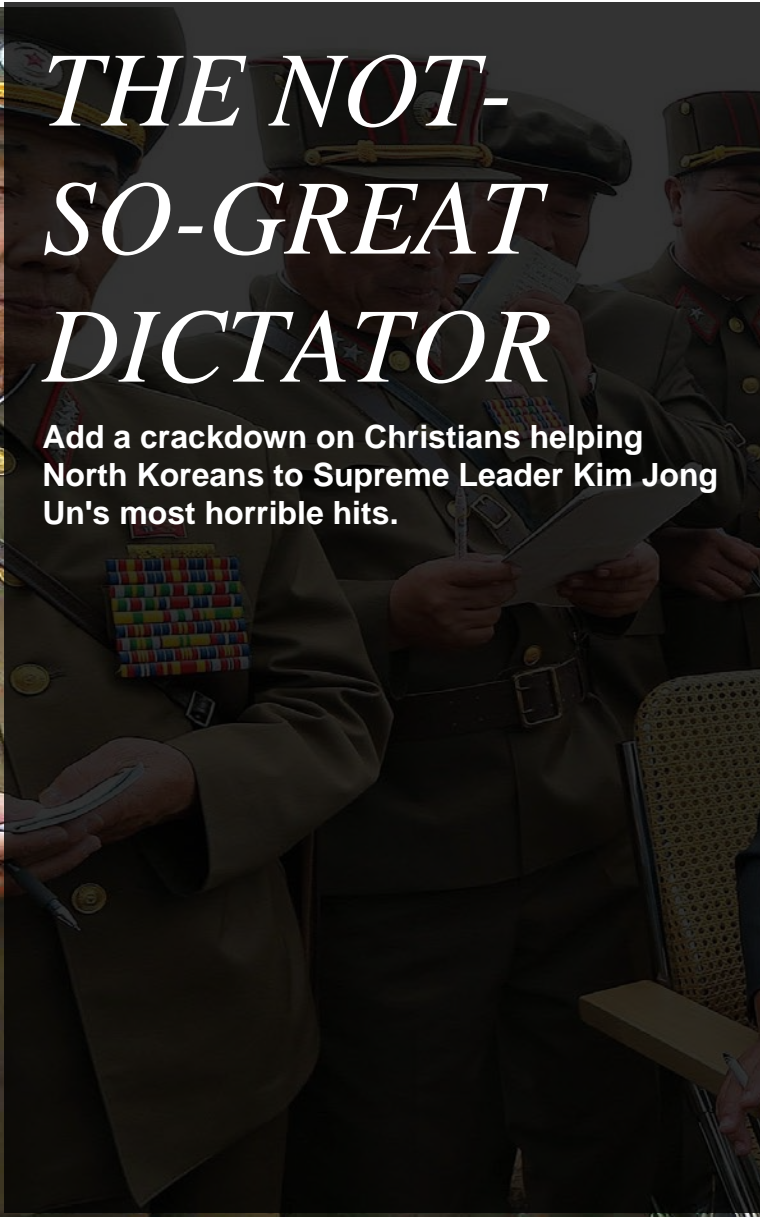
North Korea  
Supreme Leader  
Kim Jong Un



# Newsweek

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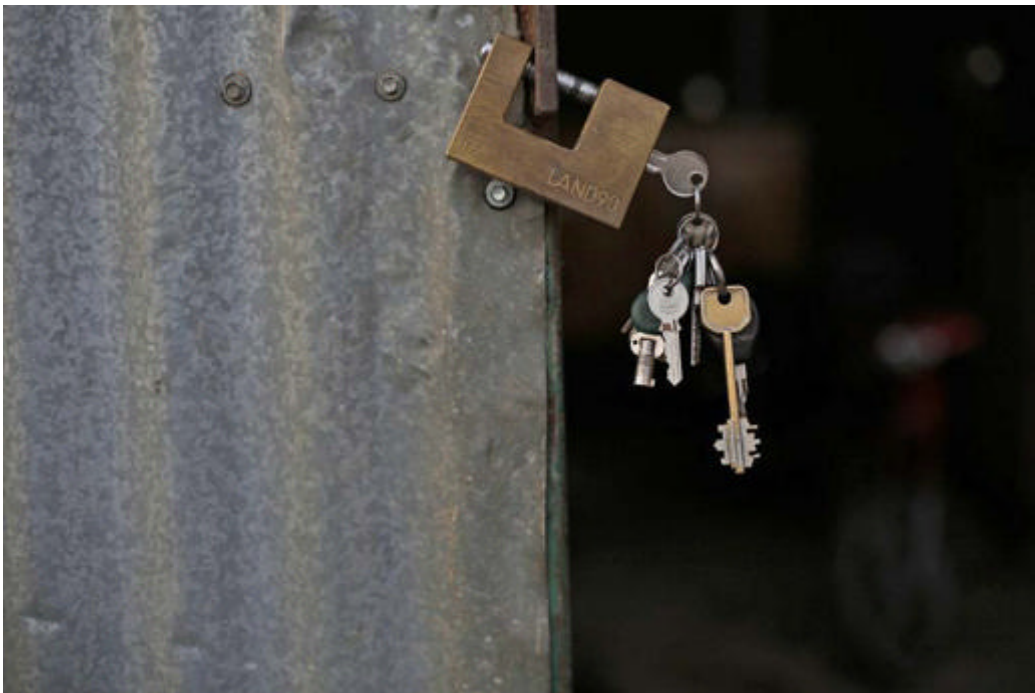
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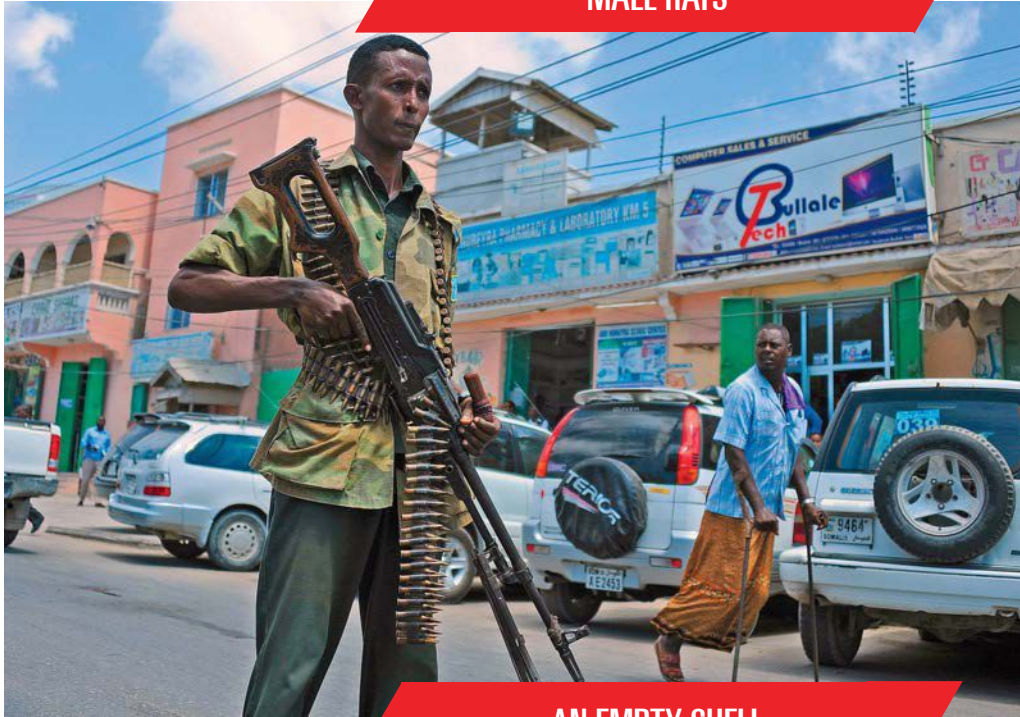


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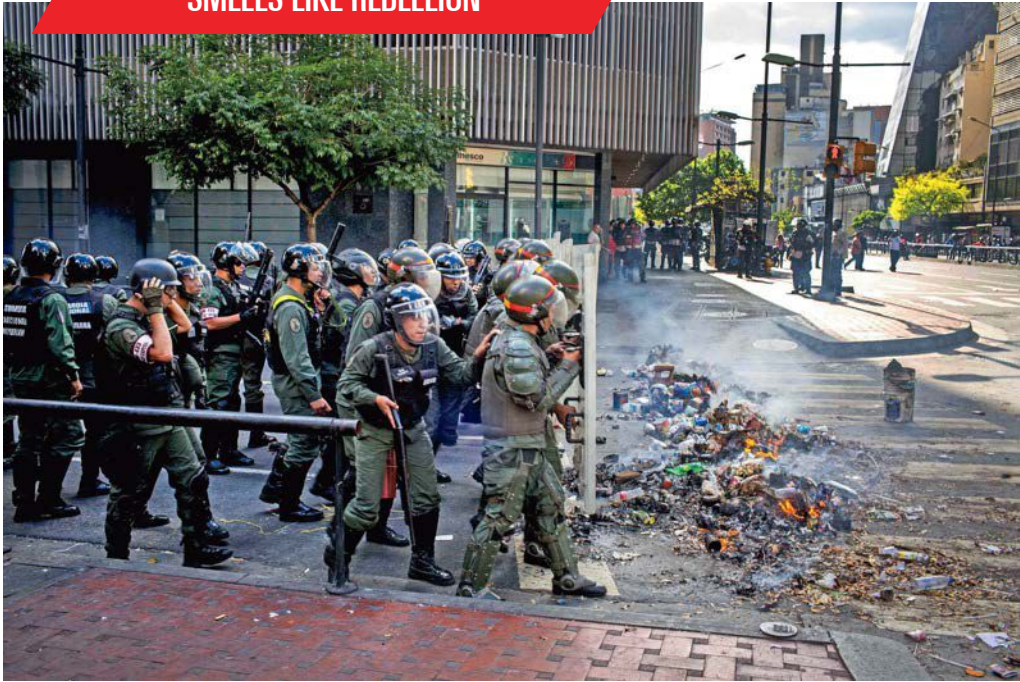
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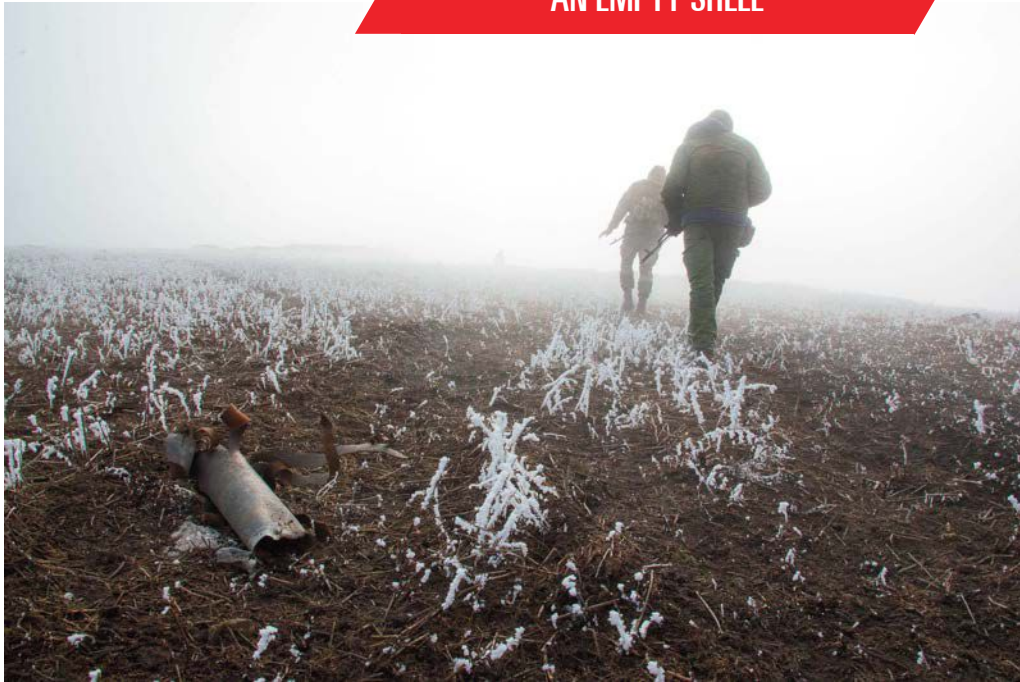
MALL RATS



SMELLS LIKE REBELLION



AN EMPTY SHELL







KCNA/Reuters

## *THE NOT-SO-GREAT DICTATOR*

**ADD A CRACKDOWN ON CHRISTIANS HELPING NORTH KOREANS TO SUPREME LEADER KIM JONG UN'S MOST HORRIBLE HITS.**

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The morning of July 1 last summer began like any other for Peter Hahn, a 74-year-old who had come to do extraordinary things in a place that he would never call godforsaken but which, nonetheless, is.

Tumen, China, sits on the border with North Korea; it's a gritty city of 140,000, more than half of which is

ethnically Korean. Like most of the region fronting this desolate border, it is poorer than much of the rest of eastern China. This is where, in 1997, Hahn decided to set up shop with his wife, Eunice, abandoning their comfortable life in suburban Los Angeles to pursue what would become his life's work: trying to help the impoverished people on both sides of the border—but in particular those from North Korea, where, in 1942, Hahn was born, in Wonsan, 90 miles east of Pyongyang. He lived there as a child before his family moved to the South.

After moving to China almost 20 years ago, Hahn set up a vocational school in Tumen, one that trained poor kids in everything from cooking to auto repair to English. He set up an industrial-scale bakery on the North Korean side of the border, bringing in wheat and flour from China to feed North Koreans. He then got permission from the government to build a fertilizer plant, and then a food processing plant in a new “special economic zone” in the northeast corner of North Korea. “We feed 22,000 people a day,” he told a reporter for *The Sydney Morning Herald*.

At the core of his decision to move to the China–North Korea border—and all the charitable work that followed—is Hahn's faith. Like many of the aid and nongovernmental organization workers who assist North Koreans, Hahn is an evangelical Christian, called to what he believes is a sacred duty to help those who drew what is surely one of the shortest straws on this planet: the citizens of North Korea, the world's most despotic regime. And it is because of his faith that Hahn's world got torn apart that July morning, and he became yet another victim of a vanishing tolerance on both sides of the border for the work he and Christians like him pursue. Caught between countries run by Kim Jong Un to his east and by Xi Jinping to his west, Hahn now sits in a detention center, first placed under house arrest that morning in July, then formally detained last November.





*North Korean leader Kim Jung Un guides the test fire of a tactical rocket Aug. 15, 2014. Credit: KCNA/Reuters*

### The Last Bond Bad Guy

When Kim came to power in Pyongyang three years ago, there was, inevitably, very little known about him (they don't call it the Hermit Kingdom for nothing). His father and predecessor in the dynastic regime that reigns in North Korea had appalled and unnerved the world. Kim Jong Il presided over the worst famine of modern times, one in which at least 500,000 North Koreans died in the 1990s, while at the same time building a nuclear bomb that remains the cornerstone of North Korean security—the ultimate Don't screw with us or you know what you'll get card.

Kim Jong Un had gone to prep school in Switzerland for a couple of years, which meant that those of us who cover North Korea could talk to people who knew him. (What a concept.) What we discovered was surprising and encouraging. Among other things, he loved the NBA. He was a fan of the 1990s Chicago Bulls, for God's sake, and he worshipped both Michael Jordan and Dennis Rodman. Surely this faint whiff of normality had to be a good sign,



right? So we wrote that the portly young man could not possibly be the out-of-central-casting Dr. Evil his father was, with the buffoonish sunglasses and the idiotic pompadour. And whatever the case, he was so young (29 when his father died) and inexperienced that there was no way he was going to run the country for very long; that task would surely be left to a regent, Kim Jong Un's uncle, Jang Sung Thaek. Jang had been one of seven elderly officials who accompanied Kim Jong Il's funeral bier through the streets of Pyongyang in December 2011. He was said to be trusted by the Chinese. He'd clearly be running the show.

That prediction turned out to be fanciful. The next time some of us who try to follow North Korea from afar had any news from there, it was, given what we had written, shocking: Kim had had Jang killed. (According to one unconfirmed report, he had him fed to attack dogs.) Suddenly the images of the young Kim playing hoops in Switzerland wearing a Rodman jersey seemed not so cute.

Then came **the storm** over Sony's *The Interview*, a movie that portrays the dictator as a weakling who is assassinated by two bumbling American journalists, and the extraordinary cyberhack into Sony Pictures, which the FBI insists was executed by North Korea. ("We believe [the hack] was carried out by perhaps overzealous underlings who believed they should defend the leader's honor," says a South Korean intelligence officer.) Now, alas, the outside world is getting a better idea of who Kim Jong Un is.





*Kim Jong Un watches a basketball game between former U.S. NBA basketball players and North Korean players of the Hwaebul team of the DPRK with Dennis Rodman at Pyongyang Indoor Stadium on January 9, 2014. Credit: KCNA/Reuters*

Sitting at a coffee shop in Seoul, an old friend of Hahn's, a Christian activist with long experience working in China and aiding North Koreans, says neither he nor his colleagues are surprised by any of this. Ask him when the crackdown on those working to help North Koreans escape began and he doesn't hesitate: "Three years ago, almost exactly when Kim Jong Un came to power."

The work activists and missionaries do for North Koreans comes in two parts. Some, like Hahn, deliver goods and services to citizens inside the country. Others work to smuggle people into China, and ultimately to South Korea—the so-called “underground railroad” that has grown significantly over the past 15 years. These refugees—there are now 27,000 former North Koreans in the South—often tell horrific stories about life in the North, stories Kim Jong Un evidently finds embarrassing and possibly threatening.



Those who make it out usually send money back to relatives in the North and often work with smugglers to get other family members out. They are also often able to phone family members in the North, and thus able to inform them of what life is like in the outside world. That has always made North Korean authorities uncomfortable.

Thus, since Kim came to power, Christian activists say that Pyongyang has ramped up efforts to stanch the flow of defectors. Among the methods, both activists and South Korean government sources say, is a change in policy aimed at North Korean border guards. They have apparently been told they can keep the bribes North Korean middlemen pay them to look the other way when refugees cross into China...provided they report on who it is that gave them the bribes and when. Kim has also apparently reduced the punishments for first-time offenders who cross the border and are forcibly repatriated by the Chinese. In the past, that was a guaranteed multiyear prison sentence. Now, according to one source, the punishment is a relatively short stint in a “re-education camp.”





*A bridge across the Yalu River marks the border between China and North Korea. On the right side of the water North Korean factories poke into the sky. The bridge on the right was bombed by the Americans during the Korean War to cut off Chinese supplies to North Korea, and replaced by the new one on the left. The contrast between the two neighbors is great. While North Korea suffers starvation and totalitarianism, China has opened its society and has become the world's fastest growing major economy. Credit:*

Justin Jin/Panos

The methods are working, sources say. Though accurate estimates are hard to come by, sources involved in the underground railroad all say the number of “travelers” last year was down significantly from 2011, Kim Jong Il’s last year in power. South Korea’s Ministry of Unification estimates that the number has been cut in half, from nearly 3,000 in 2011 to just below 1,400 last year.

### The Brutal Missionary Position

Hahn’s associates insist he had not been directly involved in the underground railroad for more than a decade. His focus has been on his vocational school and feeding North Koreans across the border. "He understood that being involved in the underground railroad would jeopardize his ability to help North Koreans in North Korea, so he has

kept his distance from that, very purposefully,” says one missionary in China.

What is unclear now is whether Kim’s effort to stem the flow of refugees from North Korea is in any way coordinated with the Chinese government’s crackdown on those providing them aid. Beijing has begun allowing North Korean agents across the border to round up refugees. Beyond that, the conventional view is that there is not much coordination, for one very obvious reason. Since Xi Jinping came to power, in November 2012, relations between Pyongyang and its lone ally, China, have been chilly at best. Xi, not surprisingly, does not view Kim as an equal; he is said to view him as inexperienced and unqualified. Beijing has apparently leaned hard on Pyongyang to not undertake a fourth test of a nuclear weapon—something Kim is, according to intelligence sources in the region, eager to do. “The Chinese have told [Pyongyang] that they will not have their back if they conduct another test,” says an official in Seoul. And officials in Seoul may well know. Xi has been on a charm offensive with South Korea, and surprised everyone when he visited there (last July), before visiting North Korea or inviting Kim to Beijing.





*Kim Jong Un visits the Thrice Three-Revolution Red Flag Kamnamu (persimmon tree) Company under the Korean People's Army Unit 4302 in Pyongyang on Aug. 24, 2012. Credit: KCNA/Reuters*

Whether coordinating with Pyongyang or not, Xi has his own reasons for cracking down on the flow of North Koreans into China, as well as the Christian activists in his country. In December, a North Korean soldier who had fled the country allegedly killed four Chinese citizens in a botched robbery attempt in the village of Nanping, just north of the Tumen River.

But the crackdown predates that incident. Xi is a nationalist, and at times—such as when he has spoken about his vision of “The China Dream”—he sounds like an American politician extolling “The American Dream.” That nationalism shows its hard edge when it comes to foreign influence in China. He has come down hard on foreign technology and media companies, and the government now even tries to disrupt the virtual private networks that let China’s Internet users have unfettered access to information on the Net.

His evident mistrust of foreign influences plainly extends to religion. Christianity has for decades been the fastest growing religion in China. There are “official” churches in which the officials are approved by Beijing, and then there are underground “house” churches, which are where much of the growth has been, fueled mostly by evangelicals. Scholars estimate there are now roughly 70 million practicing Christians in China, out of a population of 1.3 billion.

Last summer, the government made a show of destroying a new church in Wenzhou, a prosperous city in Zhejiang province and home to many Christians. Large protests followed, but the government didn’t back down. That was a clear warning, Christian activists say, that the continued growth of independent house churches would no longer be tolerated.



*Kim Jong Un stands on the conning tower of a submarine during his inspection of the Korean People's Army Naval Unit 167 on June 16, 2014.*

Credit: KCNA/Reuters

Foreign activists working with NGOs or other aid organizations within China are an easy target for the government. In addition to Hahn’s being placed under house arrest, all his financial assets there were frozen (hindering



greatly the work his various operations do). A month later, two Christian aid workers—Kevin and Julia Garratt, a Canadian couple—were arrested and charged with espionage—in particular, stealing military secrets. The Garratts ran a coffee shop in the border city of Dandong, China, and used the proceeds, several activists say, to aid North Koreans. “The fact that they would be charged with stealing military secrets just shows that the government doesn’t even care about coming up with a credible case when it comes to dealing with us,” says one Christian activist who has close ties to both China and North Korea and who knows the Garratts. “I mean, it’s just laughable.” Overall, activists say that last year hundreds of South Korean aid workers—almost all Christians—were kicked out of China, mainly by being denied visa renewals.

Hahn’s arrest, some in the Christian community say, may have come with an inadvertent assist from the U.S. government. In the spring of 2013, State Department diplomat Robert King, the U.S. special envoy for North Korean human rights issues, made a high-profile visit to the China-North Korea border, and met with students at Hahn’s vocational school. However well-intentioned the visit—State says it was simply to highlight the good work an American citizen was doing for poor children—Beijing was not amused, activists in and outside of China say. King then scheduled another visit to the border region for the following summer—August 2014. Hahn’s house arrest began July 1. Missionaries and friends of Hahn’s now grumble that the two dates are highly significant.

Hahn may have done things that were also naive, given his long experience in China. He was working on a plan to get the U.N. to help him bring volunteers to North Korean aid projects, a somewhat grandiose ambition given that he was organizing and apparently planned this fledgling organization from China. “That’s just a nonstarter in China, and Peter should have known that,” says a friend.

In November, the government formally arrested Hahn and moved him to the detention center in Longjing, China. He is suspected, the government says, of embezzlement and signing fraudulent invoices, allegations that could lead to a multiyear jail term. Hahn's lawyer, Shanghai-based Zhang Peihong, calls the charges "groundless."





*Peter Hahn was photographed at a friends house in Seoul a year ago.*

Credit: Newsweek

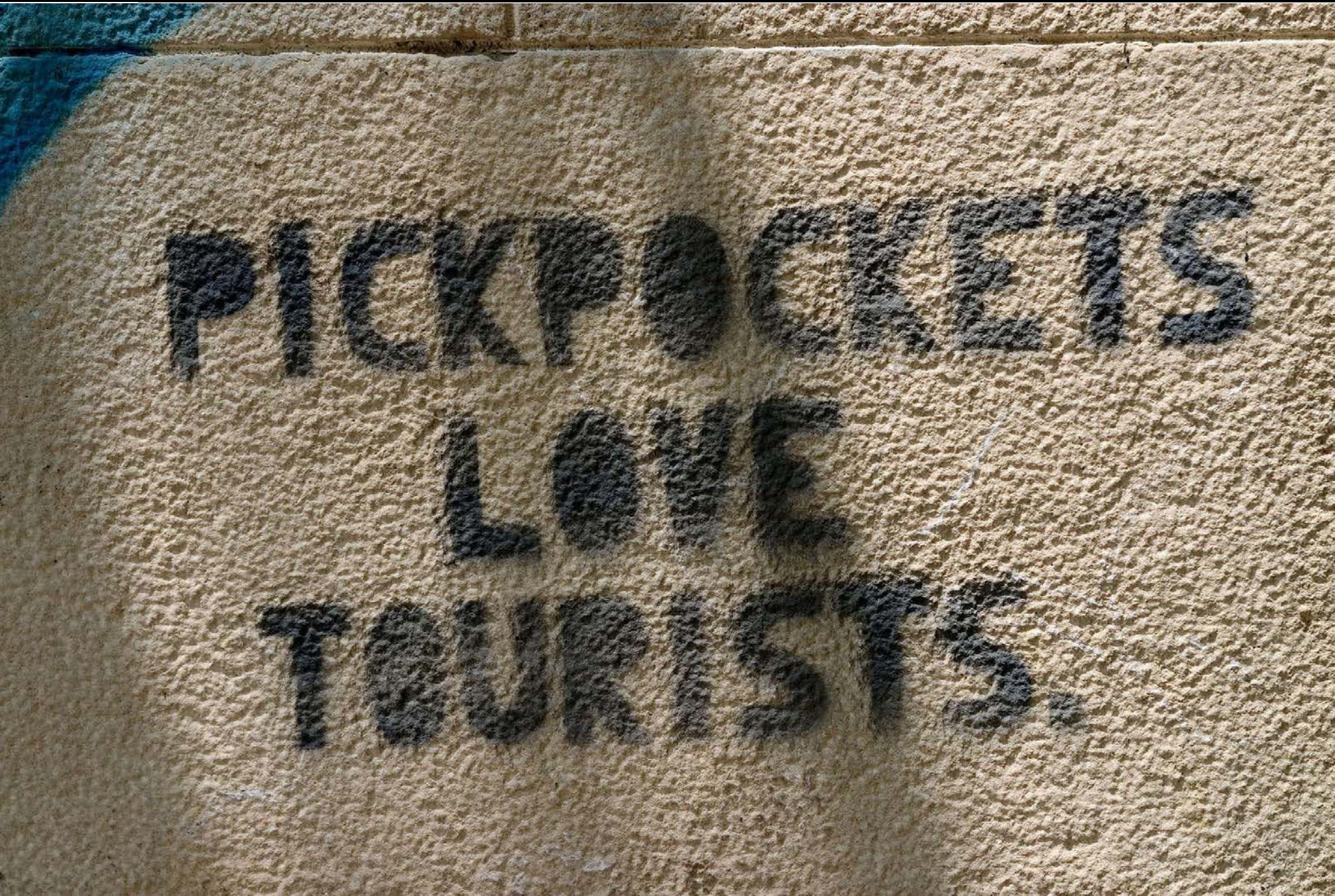


To date, Hahn's family is frustrated because despite monthly visits from officers from the U.S. consulate in Shenyang, China, he is not getting medicines he needs to treat a prostate condition. They also wonder whether the case is getting adequate attention from the U.S. government. The State Department says it is doing its utmost to win Hahn's release.

In the immediate aftermath of her husband being placed under house arrest, Eunice Hahn, 67, fled to Seoul, where she remains, awaiting a trial for Peter that still has not been scheduled. Given that one may be imminent, she declines to talk to the press about the case, but upon arriving in South Korea last summer, she told a reporter, "I feel that the Chinese government doesn't want foreign NGOs working on North Korea anymore. In the past, it just left us alone, but now it is cracking down."

That certainly appears to be the case, and even if Kim doesn't get any respect these days from his elders in Beijing, it's a policy that the portly little dictator in Pyongyang supports. Like Xi Jinping in Beijing—but against most expectations—Kim Jong Un has consolidated power in Pyongyang, and he is plainly determined to run his country with a tightening grip. And at just 32, he is likely to be around for a long, long time.





Alamy

## *INVASION OF THE BARCELONA WALLET SNATCHERS*

**KNOWN AS A HAVEN FOR PETTY CRIME, THE CITY IS TRYING TO REVERSE ITS REPUTATION AS A PICKPOCKET'S PARADISE.**

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It's a balmy Friday afternoon before Valentine's Day in Barcelona, and even in winter, Las Ramblas, the city's tree-lined promenade, is packed with people: teenagers dressed as devils for Carnival, toddlers riding on their parents' shoulders, vendors flinging annoying LED toys into



the sunny sky. February may be a slow season for tourism in Spain, but there are still plenty of sightseers stumbling around, munching on patatas bravas and digging into their fanny packs for cash, sunglasses and wipes. And wherever they go, they are stalked by roaming packs of clever thieves.

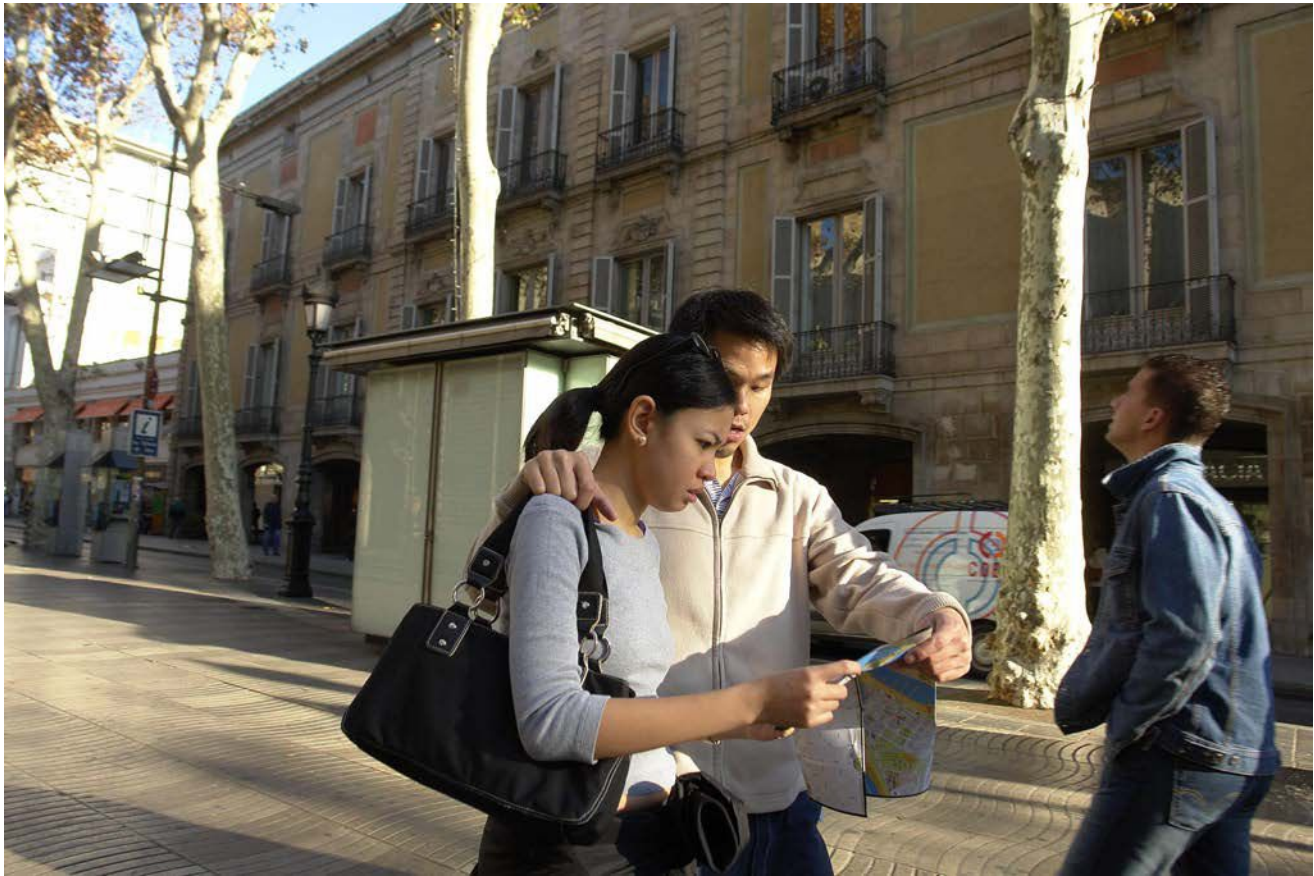
As the sun drops to the horizon line, I see a notorious pickpocket duck into a lingerie shop just off Las Ramblas. For hours, I've been searching for thieves like her on a patrol with two burly undercover cops, members of a team of 30 experienced Guardia Urbana officers who focus exclusively on pickpockets and purse-snatchers.

**[Related: [How to Spot a Pickpocket](#)]**

They don't smile much. Angel "Paxti" Pérez Vizcaya sports a thick beard, a forest-green puffy jacket, jeans and sneakers. His partner, Victor Márquez, wears a similar outfit, but he's clean-shaven and square-jawed. They're eager to catch this pickpocket, but worry they'll stand out if they follow her into the narrow lingerie store; they aren't likely to be shopping for bras and panties—at least, not together. With a bulky camera draped around my neck, I pass for a typical guiri (tourist), so they ask me to go inside. They want me to catch her in the act, then walk out and signal them to make the bust. "This is a good one," Vizcaya warns me. "She's quick."

The pickpocket, or hurtadora, is tiny, maybe 5-foot-2. She has fine strawberry hair, and is wearing a cheap white jacket and rose-colored pants. She blends in. Because they've arrested her 10 times, the cops know she's 19, and from Bulgaria.





*Asian tourists look at a city map while standing on La Rambla, a central Barcelona street popular with tourists, on December 6, 2006. Credit:*

Lex Verspeek/Hollandse Hoogte/Redux

Feeling a bit foolish, I enter the store. The thief is pretending to shop. She has a couple of bags from other stores on her arm, rounding out her disguise. She picks up a pair of slippers as if to examine them, wending her way deeper and deeper into the store. If not for my crash course in hurtadora-spotting, I wouldn't have noticed her. But the easy way to tell that she's a thief is to watch her eyes. She picks up all sorts of items—socks, slippers, underwear. She holds them, examines them, turns them over. But she's not really looking at this stuff. She's looking for a mark.

I've spent hours with Vizcaya and Márquez, but I'm still a novice at nabbing pickpockets. I don't know how to act natural inside the store. Should I look at her? Turn away? Raise my camera to snap a photo, or act nonchalant, pretending to search for silk pajamas in my size?

My mentors are outside, awaiting my sign to swoop in. They've devoted years to protecting this city—not from rapists, murderers or drug traffickers but from pickpockets.

Vizcaya and Márquez walk as many as 20 kilometers in a single shift. In a way, their job reflects something positive about their city: There's so little crime of any real consequence in Barcelona that the Guardia Urbana can chase pickpockets all day long.

But because thefts of less than 400 euros (about \$450) are punished with fines, not jail time, petty crime has become not only Barcelona's primary nuisance but a threat to its tourism industry. The police say the scourge took the city by surprise after it became a hot tourist attraction following the 1992 Olympics here. In 2009, thievery had become such a problem that TripAdvisor dubbed Barcelona the world's biggest haven for pickpockets. Over the next three years, the number of minor thefts in Spain jumped by 18.5 percent, according to the Spanish daily *El País*.

The city has since stepped up its hunt for *hurtadoras*. But when I moved here a month ago, nearly everyone I met offered the same warning: Watch your wallet. Carry your backpack in the front. Don't leave your camera on the table while you're eating tapas.

Most people here have their own pickpocket stories. Some were robbed without realizing it until later. A friend of mine, Shayne Pavli#, had a guy come up, pretend to be wasted and try to dance with him. After the thief stumbled off, Shayne realized his phone was gone. A few months later, another *hurtadora* tried the same trick. This time, Shayne tried to push the man away, but the thief tripped him and stole his phone anyway. Shayne chased him, but one of the thief's friends was waiting around the corner; he body-checked Shayne into the wall. "It actually knocked me out for a second," Shayne told me. "When I came to, I kept chasing them. I think they ducked in a doorway. They just disappeared."

Back in the lingerie shop, the Bulgarian girl has set the slippers down and is holding a pair of off-white pajama pants. They're carefully draped over her arm, obscuring her

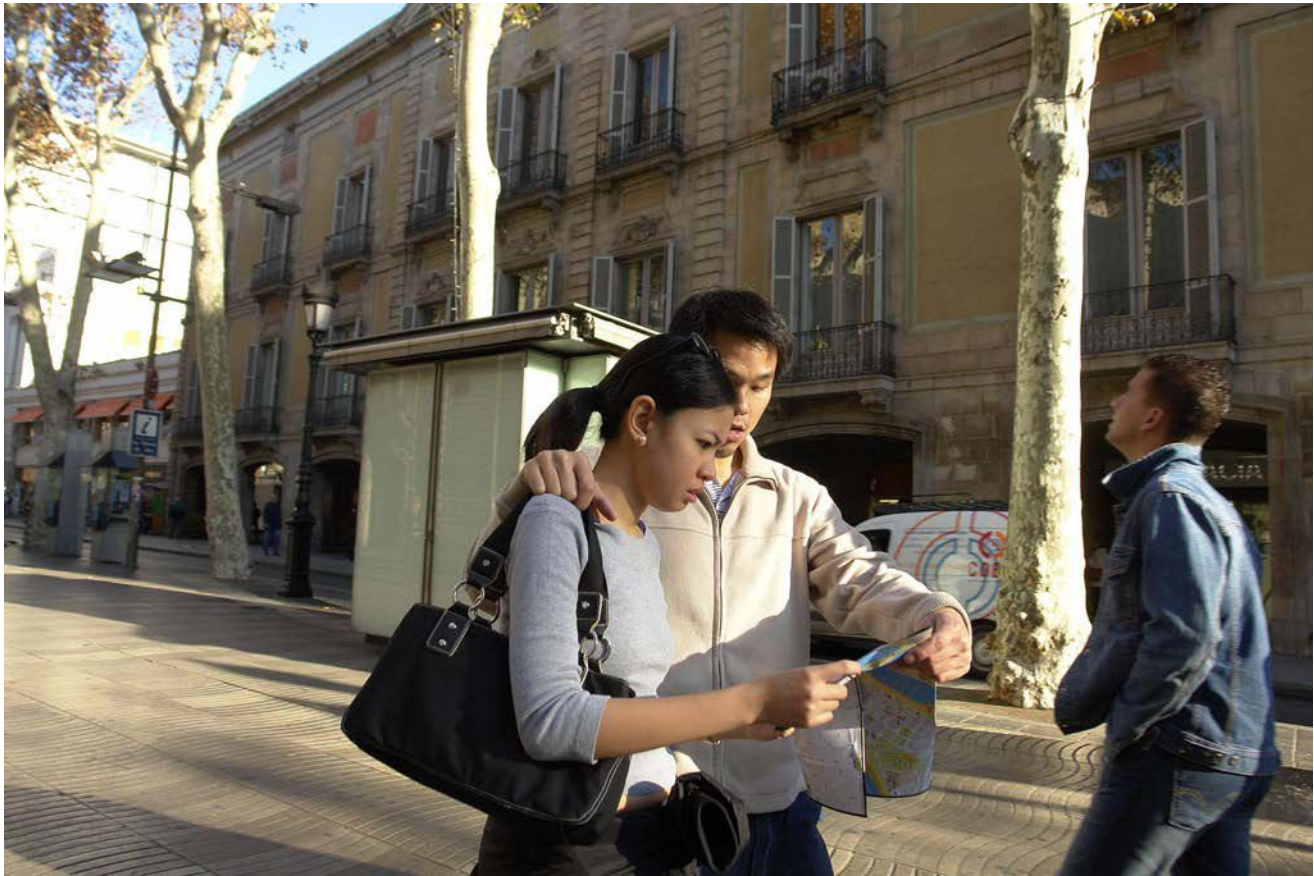


hands. This is a classic technique called *muleta*, the name of the cape bullfighters use to hide their swords. She edges closer to a Japanese tourist. The pajamas are inches from the guiri purse. That's when I see it: The thief's slender fingertips extend just enough to try to open the bag.

### 30,000 Euros in His Shirt

The cops first spotted the Bulgarian girl walking along Las Ramblas, and we'd been tailing her for a half-hour before she entered the store. This is how you catch pickpockets: Start with the thief, not the theft. Most are either someone the cops recognize or someone clearly staking out a pack of tourists. When 15 people are looking at a statue and one guy is looking at their backpacks, that's a clear sign. Our Bulgarian was a known *hurtadora*, and by her furtive movements, Vizcaya and Márquez could tell she was on the job. Within moments of seeing her, my new friends on the force saw her sidle up to a Japanese woman on the street who'd just slid her phone into her jacket. The thief quickly slipped her hand into the woman's pocket but came up empty-handed. She tried again. The mark walked a few steps, the thief walked a few steps, but again nothing.

The cops know only a few details about the girl. She lives in Poble Sec, a low-rent district in Barcelona, with a pack of *hurtadoras*. They're all from Bulgaria, Vizcaya tells me, and they've all come to Spain to steal. Pickpockets tell police they can make up to 20,000 euros in a few months, enough to live well back home for a year or more. They move all over Europe, often timing their travels to hit big conventions and festivals. The Mobile World Congress in Barcelona is weeks away and will lure thousands of the ripest targets—Asian tourists. The top three safest cities in the world, according to a recent report by *The Economist*, are all in Asia—Tokyo, Singapore and Osaka—and visitors from these places are often unaware that they're targets. "They tend to carry a lot of cash with them," Vizcaya says.



Credit:

Both the victims and the perpetrators of petty theft in Barcelona often have something in common: They're not from here. That's why Spain's financial crisis hasn't had the effect you might imagine on the city's pickpocket problem. A bad economy doesn't make these thieves more desperate; it just drives down the number of potential marks. The more well-off these tourists are, the more money they roll into town with, the more packed the boulevards.

Barcelona's pickpockets tend to work in teams, because they know undercover cops are hunting them. One or two serve as distractors, another does the pilfering, while yet another keeps a lookout for cops. Some hurtadoras specialize in snatching bags, others in lifting mobile phones or wallets from back pockets. Some work the streets, others work the metro, lifting wallets from crowds of unsuspecting tourists pushing their way onto a train, then skipping off into the station as their victims ride away.

The thieves possess varying degrees of skill and specialty. The Bulgarian girl in the lingerie store is a mid-level hurtadora. The cops call her a cuatro por cuatro (four-



by-four) because she dabbles in several different styles of petty crime. Earlier that day, we met some of the city's best hurtadoras: two Romanian girls who were stalking a pack of Asian tourists on Las Ramblas like alligators after an egret. The cops watched for a while, then made their move, thinking the girls had scored. The Romanians' behavior around the tourists was enough probable cause to search them, so the cops stopped them and dug through their bags.

"Why did you stop me?" one of the girls asks.

"We saw you casing tourists," Márquez says.

"I don't have a job, that's why I do it," the girl tells him. "There are many more thieves who are politicians and bankers."

"OK," Márquez says. "Go see the minister of interior affairs."

"It hurts me so much to do this," the girl says. "I don't do it from the heart."

The cops find nothing incriminating in their bags, but neither girl denies that she's a full-time hurtadora. I introduced myself to one of them, and asked if she'd tell me a bit about her methods. "I don't like to talk about how I steal," she says. "If I do that, who takes care of me? I am alone."

As we chat, the cops keep scanning the street. Moments later they spot another possible hurtador, near a statue of Christopher Columbus. They motion for me to join them and I do. This kid moves quickly. He's never in one place for more than a few seconds, and never conspicuous. We follow him.

This thief is patient. Most are. They'll search and search and search, walking miles for the easiest opportunity—an unzipped backpack, a bulging wallet in a back pocket, a pile of suitcases on the street. No need to take unnecessary risks when there are so many suckers on the sidewalk.



*A tourist walks by a shop on La Rambla in Barcelona, Spain on September 12, 2012.* Credit: Juanfra Alvarez/Invision/Redux

You'd be amazed, Vizcaya tells me, at how exposed people will leave themselves. A few years ago, he spotted a Japanese tourist standing with his jaw agape in front of the Barcelona Cathedral. In his back pocket was a black leather wallet stuffed with euros. Four women surrounded him from behind, and one lifted his wallet. Vizcaya had been following the group and quickly apprehended the thieves. Had he not been there, they would have made off with 18,000 euros and a stack of credit and debit cards. The tourist had another 30,000 euros in his shirt pocket, along with his passport. The man was even carrying a piece of paper with the PINs written down for each card. "He said he had a bad memory," Vizcaya says.

The skinny kid on Las Ramblas didn't find such a fat target, so he trotted down to Port Vell, to the boardwalk along the port, toward the beach. In summer, this place would be packed with guiris, but on this Friday afternoon it's nearly dead. The cops keep their distance as they trail him, but at some point they swing wide and walk out in



the open, away from the sidewalk, presumably for a better line of sight. The kid stops, shoots a quick look at us and then bends down to mess with his pant leg. Again and again, he straightens his jeans. A few seconds later, he darts into the crowd. The cops let him go, insisting he hadn't "made" them. But a few minutes later, I can hear the cops' supervisor on his cellphone talking to a colleague, admitting the truth: We were spotted.

### 'It's Like Fishing'

Back in the lingerie store, the Bulgarian girl's hand is still beneath her muleta, her fingers fumbling with the clasp on the tourist's purse. She finally gives up and sets her sights on a new mark. She moves a few feet away, again extending her fingers, only this time she's sloppy. The tourist jerks away, shoots the Bulgarian girl a surprised glance and then checks her pocket. She must have felt something.

Both the thief and I emerge from the lingerie shop with nothing. When Vizcaya sees me, he mimics a camera with his hands, asking if I caught the girl on film. I shake my head no, and his face falls. But we're not giving up. The girl ducks into a nearby Subway sandwich shop. We're hoping she's after a new target in there, or maybe came to dump a wallet into the trash. Instead, she orders a sandwich and sits down. We're sidelined, out on the street with nothing to do but watch while our hurtadora takes a lunch break. "It's like fishing," Vizcaya tells me. "You need a lot of patience."

Thirty minutes tick by, and our thief finally leaves, heading for the underground metro, a sure sign she's finished for the day. The cops figure she wouldn't quit before dark unless she's pinched someone, so they swoop in, stopping her before she gets to the turnstile. With little explanation, they grab her bags and search them. She protests half-heartedly. This isn't her first time dealing with the cops.

“Didn’t you put your hand in that Japanese lady’s jacket?” Márquez asks. The girl shakes her head no, and lights a cigarette.

After a few minutes of questioning, the cops lead her back upstairs and out onto the street. They radio for a female officer to search her as they continue to riffle through the girl’s purse and shopping bags. All they find is a ziplock baggie, the kind often used by hurtadoras to stuff stolen money into their vaginas, Vizcaya says. A female cop shows up, escorts the thief into a waiting van and conducts a search. A few minutes later, they emerge. The Bulgarian is clean.

When the police run the girl’s name in their system, they learn she has two pending trials on theft charges. She insists she’s planning to show up in court, but the cops tell me later that she probably won’t. She’s better off heading back to Bulgaria and waiting six months. By then, the charges against her will have evaporated.

#### ‘The Law Is Too Slow’

Petty theft in Barcelona is a revolving door. I learned this the morning before linking up with Vizcaya and Márquez, at a meeting at Barcelona City Hall with Josep Rius. He’s chief of staff to the deputy mayor and one of several public officials eager to reverse Barcelona’s reputation as a haven for petty criminals. “This is not a dangerous city,” he tells me. In fact, he says, The Economist recently ranked Barcelona the 15th safest city in the world. “More than 50 percent of all crime is really low-level crime. There’s almost no violence. [But] you can’t put a pickpocket in jail for one offense. The problem is with re-offenders.”

According to Spanish law, petty thefts of less than 400 euros are “minor” crimes, punishable only by a small fine, and the authorities can’t jail a thief unless the robbery involves violence. Worse still, misdemeanor crimes are prosecuted without regard for prior convictions. In New



York City, on the other hand, judges can and usually do ramp up penalties in light of a defendant's past crimes.

In 2010, the Spanish government tweaked its laws and pickpockets can now be arrested after their third offense. The new laws also increased potential prison terms—for thefts above 400 euros—to a maximum of four years. But most thieves have figured out that they can steal a bit less than 400 euros and risk very little. And thanks to the clean-slate loophole, even thieves who get busted can just flee the country for a while, come back and start over. Vizcaya has arrested a few pickpockets in one ring more than 100 times, he tells me. It's a game that never really ends. "The law is too slow," he says. "They can face between five and eight years of prison, but it takes a year and a half to get them there. And if they don't want to go, they just leave."

In the past four years, Rius and other members of the Barcelona City Council have been pushing to change Spain's national laws yet again in an effort to close this loophole.

Nevertheless, few seem to believe the foot patrols are a waste of time. The officers I met find it satisfying to return wads of cash, wallets, passports and credit cards to bewildered tourists. "When I travel to other countries, I like to feel safe," says Márquez.

The locals care, too. They're tired of Barcelona's reputation as a pickpocket's paradise, and many shopkeepers wear whistles around their necks, which they blow to alert tourists every time they spot a known pickpocket. A woman who moved to Barcelona from Colombia 15 years ago appointed herself the city's guardian angel, spending hours each day riding the metro in search of hurtadoras and blowing her whistle every time she spots one.

Even with the legal limitations, Rius argues, the city is making progress on petty crime. In 2011, after the election of Mayor Xavier Trias, Barcelona launched "Operation Xarxa" (Net), which placed nearly every officer on the force on foot patrol. Now 89 percent of the city's 3,000 officers

work the streets for part or all of their shifts. The mayor also stepped up enforcement on the metro, where the Guardia Urbana once had no presence. The result: Crime on trains and in stations has plummeted by a third, the police say. The number of petty thefts in Barcelona has dropped 15 percent over the past three years, Rius told me—a direct result of this stepped-up enforcement.

Residents are taking notice. Four years ago, an annual city survey listed “insecurity” about crimes like this as their top concern, above even Spain’s cratering economy. That number has since dropped below 10 percent, says city spokesman Sergi Sabaté Butí. “This strategy was important not just because of the results but because of the perception of citizens in Barcelona,” says Rius. “Now people are convinced that Barcelona is more secure than it was four years ago.”

Not secure enough, though, which is why the Guardia Urbana officers remain relentless. When it’s clear the police are going to let the Bulgarian girl go, the worried look on her face dissipates, and she skips off and disappears down into the metro. But because they don’t think she’s earned any money today, Vizcaya sends another undercover agent in after her. If they have to, they’ll spend the whole night hunting her down.

Follow reporter Winston Ross on Twitter  
[@winston\\_ross](#).





Safin Hamed/AFP/Getty

# *MEET THE SOLDIERS TRYING TO RETAKE MOSUL FROM ISIS*

**BAGHDAD AND WASHINGTON ARE FOCUSED ON  
RETAKING THE ISLAMIC STATE STRONGHOLD,  
WHILE THE PESHMERGA FIGHT FOR THE FUTURE OF  
KURDISTAN.**

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The front line of the fight against ISIS in northern Iraq is manned by Kurdish fighters ranging from the young to veterans who proudly carry the same weapons they used to fight in the Iran-Iraq War three decades before. Mohamad



Barzani, 60, says he has spent “40 years fighting. First the Iranians, then Saddam Hussein.” He has been based on this rocky hillside, surrounded by deserted villages and bombed-out houses, for four months. “But we are fighting for something,” he says, pointing to the tattered Kurdish flag positioned on top of a pile of sandbags.

Kurdish fighters like him, known as the peshmerga, will play a role in the attempt to retake Mosul from ISIS, which could come as soon as April, according to an official at U.S. Central Command, to avoid the heat of summer and the holy month of Ramadan, which starts in mid-June. But the Kurds have their eyes on the future rather than on Mosul, a largely Sunni-Arab city that historically had only a small minority of Kurds and is outside the semiautonomous region of Kurdistan.

Black Tiger Camp, near where ISIS fighters threatened the Kurdish capital of Arbil last summer, is the command center for one of the longest front lines in Iraq. “Sector 6” of the front line runs from the town of Makhmour to Gwer and is commanded by Sirwan Barzani, a former telecommunications businessman before the rise of ISIS and a nephew of Kurdish President Masoud Barzani. An intelligent, thoughtful commander, Barzani says he has not been informed by Baghdad or coalition forces of the plan to retake Mosul, which is only about 50 miles from his base. “It’s a political decision, done in Baghdad,” he says.

The plan to retake Mosul has been met with much skepticism, in large part because Iraqi police and soldiers abandoned their posts when the jihadists roared into town on June 10 last year. Much of the Iraqi military melted into the population, embarrassing the Baghdad authorities, who maintain their army is strong. Now the United States is providing training and equipment to Iraqi forces in anticipation of the campaign for Mosul.

According to Barzani, the past six months have been difficult for his men, but they have consistently pushed ISIS



back. “The airstrikes are helping us, for sure,” he says. “We have good coordination with the coalition so that every 10 days we are able to have a major operation. When the airstrikes are precise and hit ISIS targets, the peshmerga can move in closer and try to capture tanks and push back ISIS fighters. There have been zero civilian casualties with the airstrikes.” But the fight has taken its toll on the peshmerga across the region: The official death toll reached nearly 1,000 in February.

The U.S. Central Command official says the Mosul attack force would have around 20,000 to 25,000 Iraqi troops, including five Iraqi Army brigades, three smaller brigades in reserve, a “Mosul fighting force” of local police and tribal fighters, and some Iraqi special forces. Three peshmerga brigades would play a role to “contain from the north and isolate from the West,” the official says.

The battle-hardened peshmerga have proved themselves against ISIS, but they are being pushed into an uneasy alliance with Iraqi army forces from Baghdad, Shiite militias and Sunni tribal fighters. Without the Kurds in a leading role, the Iraqi army will have to perform much better than it did when Mosul was taken. A question that worries Iraqis and observers: What happens to the alliance if ISIS is defeated?



*Kurdish peshmerga fighters train in the grounds of their camp in Arbil, Nov. 3, 2014. Credit: Azad Lashkari/Reuters*

## Biding Their Time

What the Kurds do not need, Sirwan Barzani and other peshmerga commanders stress, is more men. They are dubious about the abilities of the Iraqi army, and nervous about the rise of the Shiite militias that roam Baghdad and have been fighting alongside the army. “We need what ISIS has,” Barzani complains. “Weapons. Remember, ISIS are well armed. They took five divisions of Iraqi army equipment. If we have weapons, we can do it.”

While many peshmerga officials and the military complain they are under-equipped, U.S. and Baghdad officials say they are getting plenty of equipment. The Kurds have also been accused of using the crisis to establish a Kurdish state in the north. According to analyst Denise Natali of the Institute for National Strategic Studies, the peshmerga’s victories have been increasing tensions with Sunni Arab communities. “As Iraqi Kurds benefit from coalition airstrikes and take control of former ISIS safe havens in northern Iraq, they are engaging in demographic



and territorial engineering to advance their nationalist agenda,” writes Natali in online newspaper Al-Monitor.

It is no secret that the Kurdish Regional Government is often at odds with Baghdad, mainly over budget and border issues, or that the Kurds want a state of their own, in part because their history is rife with betrayal and attempts at annihilation. They survived a near-genocide when Saddam Hussein launched the notorious al-Anfal campaign against them in the final stages of the Iran-Iraq War, from 1986 to 1988. According to Iraqi prosecutors, as many as 182,000 people were killed, mainly men of fighting age.

The majority of Kurds are Sunni, but religion does not define them. “We have always been more nationalistic than religious in our thinking,” says Majeed Gly, a journalist at Rudaw, the Kurdish media network, who is from Kirkuk. Some complain that Kurdish fighters will fight to the death for their territory, but when Christian or minority towns fall, such as Sinjar, they disappear.

That’s why Sunni Arabs in Kirkuk have requested their own militia for local protection. President Barzani emphatically refused, but as a concession, the Ministry of Peshmerga is training about 300 Christian militia fighters who will fight primarily alongside peshmerga in Christian regions such as the Nineveh Plains. They have already trained Yazidis (who come from the Sinjar district) and the Shabak, who are mainly Shiite Kurds.

Before it was taken, Mosul had a population of about a million people, with a Sunni-Arab majority and significant Assyrian-Christian, Iraqi Turkmen and Kurdish minorities. Since the occupation, it is estimated that Sunni Arabs have mostly remained in the city, along with around 2,000 ISIS fighters.

The Kurds have bided their time and are using the current crisis to their advantage. In June, shortly after the fall of Mosul, peshmerga forces rushed to take Kirkuk, the

“Jerusalem” of Kurdistan. The northeastern city is rich in oil, and both Baghdad and the Kurds claim it as their own.

Privately, Kurdish officials and Western diplomats say the Kurds are not ready, economically and politically, for independence. But the Kurds counter that they are now doing the heavy lifting against ISIS because Baghdad cannot control the Shiite militias and its army is in disarray. “We are fighting [ISIS] is to protect our region but also to protect the free world,” says Safeen Dizayee, a Kurdish Regional Government spokesman. “At the same time, we are not fighting a proxy war. We are not mercenaries that you can pat on the back and say, Good job, old chap.”

Extremely Loyal...for Now

On February 17, the peshmerga scored an important victory near Makhmour, which is southeast of Mosul. The morning after the battle, an exhausted Commander Najat Ali Salih says ISIS had fought hard. “It began close to midnight and went on for hours. ISIS used everything they had—small arms, anti-aircraft, RPGs, DShKs [Soviet-made heavy machine guns].”

Nearby was an armored vehicle, and in front of it lay two dead ISIS fighters. Both were very young, and their faces seemed frozen, at the moment of death, in surprise. Scattered around them on the ground were anti-aircraft shells.

Villagers congratulated the commander on his victory, which he says took back several miles of Kurdish territory. It was a psychological victory, a moral boost, he says. “When we first started fighting ISIS back in August, we saw they used tactics that we were not yet used to—fear, for instance. Some of the peshmerga were afraid of the beheading. Now we understand how they fight. So we can beat them.”

Salih says when he arrived here in August, ISIS controlled 50 to 60 percent of the area, but he has been progressively capturing more and more territory.



In small Arab villages west of Kirkuk, and very close to ISIS-held territory, Sunni Arabs (who do not consider themselves Kurds) say that they are living well under the peshmerga and that even if ISIS takes their villages, they will remain loyal. “We have two enemies now, ISIS and the Shiite militias,” one villager says.

Many Sunni Arabs have felt deep resentment since the fall of Saddam, a Sunni, in 2003, with Shiite-led governments consistently undermining them.

There is widespread fear, especially in Kirkuk and Arbil, of “sleeper cells” of ISIS followers who will rise up if the militias reach their territory. This was the case in Mosul, which sleeper cells had infiltrated long before the fall of the city in June 2014. “We know for sure there are sleeper cells of ISIS supporters here,” says Jawad Mohamed Ahmed, a political and military official in the Kurdish Democratic Party, one of the main Kurdish factions. “We had trouble with some Arab villagers who said they were on our side, but when ISIS arrived and the fighting started, whose side were they on? They started shooting at us.”

But local Sunnis insist—perhaps because they are surrounded by peshmerga—that they will remain loyal to Kurdistan. They say they know of collaborators in the village who communicate with ISIS by email and SMS. “But I have reasons never to collaborate,” says one elderly Sunni Arab man in Malha, a village in one of the region’s richest oil areas. “My daughter and son were killed by Sunni insurgents a few years ago. The insurgents have now gone on to become ISIS. It’s the same men who killed my family. If they come here, I am with the peshmerga.”

In many ways, the battle against ISIS has hardened the sectarian divisions. “Ultimately, the Kurds have no interest in fighting [ISIS] on behalf of the world. It’s about taking disputed territories and ensuring that they are safe enough from the threat of [ISIS],” says Iraqi writer and analyst Ali Hadi al-Musawi. “But what happens once [ISIS] is defeated

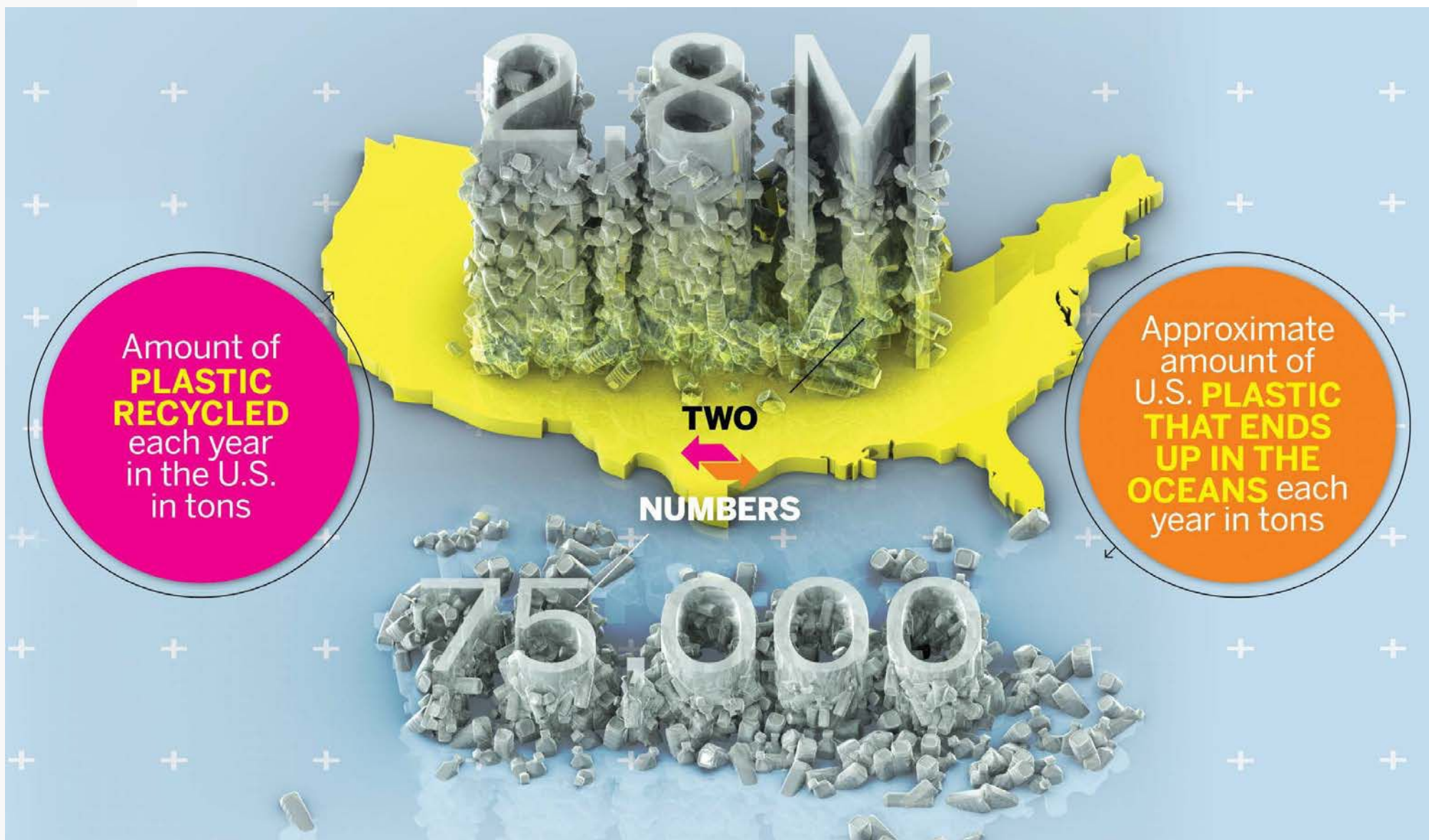
in Iraq? Will the Kurds hand Kirkuk back over to the federal government? Will they allow the constitutional committee to determine the fate of the disputed territories? Will they use their newly acquired weapons to resist these efforts? What happens to non-Kurdish communities in areas they control?"

These are not new questions. In the aftermath of World War I, when Gertrude Bell, a British government official and Arabist, sat down to draw the map of modern Iraq, the Kurdish question bedeviled her too. Though "Miss Bell," as the Iraqis called her, had managed (along with her Foreign Office colleague T.E. Lawrence) to convince the Sunni tribesmen to work together, she was frustrated by what to do with the Kurds. "Kirkuk has refused rudely to swear allegiance to [King] Faisal," she wrote, on a tense train journey north to Kirkuk from Baghdad.

To Majeed Gly, the Rudaw journalist, the real question, post-ISIS, is what will become of Kirkuk, which is believed to be the next major flash point in this war, once Mosul is recaptured.

Kirkuk, Gly says, "is part of Kurdish legend. Since the 1960s, it has become hugely important to us. Without Kirkuk, an independent Kurdistan is not viable."





Sinelab

# ***EIGHT MILLION TONS OF TRASH ADDED TO OCEAN FROM LAND EACH YEAR***

**PLASTIC CAN TRANSMIT POLLUTANTS INTO THE FOOD WEB.**

For the first time, scientists have estimated how much plastic in the ocean comes from the land, as opposed to from ships and fishing vessels. And it's not a small number.

A study **published in the journal Science** calculates that 8 million tons of plastic trash makes its way into the ocean each year.

“This is equivalent to five large trash bags full of plastic trash, for every foot of coastline in the world,” says study co-author Jenna Jambeck, an environmental engineer at the University of Georgia.

That number is the middle of the range of estimates the researchers came up with; the total may be as low as 4.8 million tons but could be as high as 12.7 million. And it could get worse: Under a “business as usual” scenario where no major waste management changes are made, that number is set to double by 2025, Jambeck adds.

This “ground breaking study” shows that “the oceans are likely to be even more contaminated than we have previously considered based on counting litter at sea and on shorelines,” says Richard Thompson, a marine biologist at Plymouth University.

The top 20 waste contributors are all developing countries with densely populated coasts—with one notable exception: The United States comes in at number 20 on the list. Approximately 75,000 tons of American plastic waste enters the oceans via the land each year, the study noted. To put that in context, the U.S. recycles 2.8 million tons of plastic annually, **according to the U.S. Environmental Protection Agency**.

China is far and away the largest contributor to the problem, producing about 2.4 million tons of plastic waste each year, accounting for 28 percent of the world’s total.

But Jambeck was quick to say that this study isn’t about pointing fingers or assigning blame. It’s a problem that everybody contributes to and can help improve, she says.

Previous studies have shown that **there are 270,000 tons of microplastics**—tiny particles and fibers of plastic—floating on the surface of the world's oceans. And there's



even more plastic trash on the ocean bottom. In one area of seafloor in the remote Indian Ocean that is about one-third the size of Central Park, scientists recently counted **an estimated 4 billion plastic fibers**. They believe that the ocean is equally polluted in many other places.



*Plastic trash on a beach near Panama City, Panama, on September 10, 2013. Credit: Carlos Jasso / REUTERS*

Plastic pollution is a problem for many reasons. Most obviously it can entangle and choke animals like sea turtles, birds and mammals like dolphins. Plastics can also both soak up and leach out toxins that can make their way into sea animal's bodies, potentially accumulating in the food web and finally ending up in seafood that humans eat, says **Chelsea Rochman**, an ecotoxicologist at the University of California-Davis who wasn't involved in the study.

Jambeck says the solution to this marine problem lies on land. **Marcus Eriksen**, the director of research at 5 Gyres, an environmental and research organization, concurs. "It's not sensible to go to the ocean with nets to capture trash, but rather to focus on mitigation strategies on land," says Eriksen.

To reduce waste, countries have to come up with better “collection, capture and containment” methods, Jambeck says. Much of the plastic that ends up in the ocean from the land is carried by water, and also the wind. So a properly managed waste stream is important, she says.

But to really solve the problem, plastic producers should design products that can be reused or easily reprocessed, Eriksen says. “If all plastic products and packaging were designed with a recovery incentive, then very little would likely make its way to the ocean,” he says. “Design matters as much as waste management.”





Alexey Panov/AFP/Getty

## *A REALLY COLD WAR IS PLAYING OUT IN THE ARCTIC*

**NOBODY KNOWS WHAT RUSSIA IS UP TO IN THE ARCTIC. BUT WITH LONG MEMORIES OF THE NAZI OCCUPATION, NORWAY IS PREPARING FOR THE WORST.**

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The Mågerø air defense monitoring base is inside a mountain at the end of an unmarked country road two hours south of Oslo, Norway. With only a rudimentary sentry box, a simple draw gate and a lone soldier guarding its entrance, the installation looks more like the set for a movie about

the Nazi occupation of the country than a key link in the country's state-of-the-art defenses.

At the end of a long, narrow tunnel into the mountain, in a cavernous room filled with computers and radar monitor screens, intelligence specialists stare at blinking icons marking the movement of aircraft around Norwegian airspace. On an all-too-typical afternoon recently, they watched as two nuclear-capable Tu-95 Russian Bear Bombers floated like fireflies across the top right of their monitors. A few desks away, an airman picked up phone and called Bodø, a military base on Norway's northern coast. Moments later, two F-16s rose to eyeball the intruders.

It turned out the Russian bombers were just practicing some kind of circling maneuver outside of Norway's Arctic air space. But on January 28 two more Tu-95 bombers, escorted by tankers and Russia's most advanced MiG-31 fighter jets, showed up off the coast. One of them was carrying "a nuclear payload," according to the London Sunday Express, which cited intercepted radio traffic. And last fall, a Russian Tu-22 supersonic bomber skirting Norway's northern airspace was photographed carrying a cruise missile in launching position, according to the [Barents Observer](#) blog. Similar examples abound.

Adding to the potential for an unintended catastrophe, Russian warplanes typically lift off without filing a flight plan and cruise the busy commercial flight lanes with their transponders off, riling airline and NATO pilots alike. In recent months Russian warplanes have been engaging in Top Gun-style stunts far from home, popping up unannounced aside an SAS airliner on a flight between Copenhagen, Denmark, and Oslo and buzzing a Norwegian F-16 pilot. (A widely watched [cockpit video](#) of the incident, released by the defense ministry, shows the pilot yelping "Holy shit!" as a MiG-31 darts past his wingtip.)

"We haven't seen this kind of activity for many years," Colonel Arvid Halvorsen, Mågerø's base commander, says



as he watches the blinking icons for the Russian Tu-95s on a radar screen. “The missions are also more complex lately,” he says, with larger and larger groups of bombers escorted by MiGs, tankers and surveillance aircraft.

Although Moscow isn’t threatening the West with anything near the number of warplanes deployed by the Soviet Union during the Cold War, its air sorties around Norway have increased dramatically each year since 2007, when Russian President Vladimir Putin ordered his strategic bombers to resume flights in international airspace.

But late last year, with the world’s attention riveted on Ukraine, Putin put a little-noticed exclamation mark on his Arctic strategy. For the first time, the Kremlin’s announced military doctrine included instructions to prepare to defend Russia’s interests in the Arctic. Plans for two new Arctic army brigades were drawn up. An abandoned military base at Alakurtti, Russia, less than 30 miles from the Finnish border, was reopened. And military construction crews began refurbishing a string of Cold War–era bases on islands in the Arctic. “Our main objective is research and evaluation of conditions in the Arctic and the suitability of our weapons and equipment this far north,” Vladimir Kondratov, commander of the surface ships group of the Northern Fleet, told [Russia Today](#).

### New Red Dawn?

No one knows what Putin's endgame is. And while the Norwegians would rather prepare quietly than stoke fears of a Crimean-style Russian grab in the Arctic, the country's memory of the Nazi invasion 75 years ago remains fresh. At Mågerø and two dozen other bases scattered from Norway’s southern tip to its northern frontier with Russia, Oslo’s armed forces are preparing for the worst.

But “the worst” is a mystery. “I'd agree that the Russians have been very active,” says Keith Stinebaugh, a longtime Defense Department civilian intelligence specialist who is now a senior fellow in Arctic Security Policy at the

Institute of the North in Anchorage. But “aggressive” may be overstating it, he adds. “You'd have to define what is meant by aggressive and compare it to what they did during the Cold War.... They are certainly more active around the world, not just in the Arctic.”

A Russian-speaking former CIA officer, who spent more than a dozen years operating undercover in the former Soviet Union, agrees. Today’s activities are “nothing like the Soviet air incursions that occurred on a weekly basis at the height of the Cold War,” the former officer says. And while Moscow’s armed forces, are “much improved over the past few years, [they] are still a shadow of their former Soviet selves.... Putin is very aware of this,” the officer adds, “but his beefed-up forces enhance national prestige and have allowed Russia to command more respect on the international scene.”



*A Norwegian army soldier guides a NATO helicopter to a landing during a live fire exercise on March 6, 2013 in Skjold, Norway. Credit: Robert Nickelsberg/Getty*

Which is a waste of money for Moscow, argues Ernie Regehr, a senior fellow in Arctic security at the Vancouver, British Columbia–based Simons Foundation. “Does it ever



make sense to threaten to do what you know will never be in your interests to do?” Regehr recently argued in a paper for the foundation. “Symbolic flights of fighter aircraft and bombers are intended to remind the adversary that these weapons are available for use. But in any rational world, they are clearly not available for use by Russia against NATO or by NATO against Russia. There is no circumstance under which this would make sense or serve the interests of either side. Neither side wants them to be used.”

Stinebaugh, who spent 38 years in the Defense Department, suggests there may be a more prosaic reason for Russia’s Arctic buildup: money. “It may be that one way to get a project funded in the Russian military system today is to attach the word ‘Arctic’ to it, just like U.S. projects got funded by invoking [the global war on terror] and now get funded with ‘cyber’ even if the connection is tenuous,” he says.

Yet few Norwegians can completely banish the specter of the Russian bear on their doorstep, says **Reidun Samuelsen**, the editor at Aftenposten, Norway’s leading newspaper. “It’s never far from our minds,” she tells Newsweek.

### Norwegian Nightmares

As was the case in the U.S. during the Cold War, when fears of nuclear conflict found outlets in films such as *Dr. Strangelove* Norwegians’ anxieties over Russian intentions will soon burst forth in *Occupied*, a political thriller conceived by **Jo Nesbø**, Norway’s internationally best-selling crime writer.

Scheduled to debut on Norwegian TV next year, the weekly drama “follows events in the close future” when Russia has carried out a “silk glove invasion” of Norway “in order to take control of its oil resources,” according to a news release.

“My idea was this,” Nesbø told Newsweek by email. “The Norwegian Green/left-wing government has decided it will stop producing fossil energy.” Russia moves in, seizing its oil facilities. When the U.S. and E.U. issue only paper protests, he says, Norwegian leaders “don’t see the point in military action, they try to negotiate while the Russians quietly take over the few things they [need] to take over to control the oil. And it’s a gentle occupation. Most Norwegians can’t really tell the difference. There are few Russians present, most of them are in suits, and there’s seemingly no censorship and Norwegians can travel freely and keep on living their lives as one of the richest populations in the world.”

News of the series emerged at about the same time Norway’s security service uncovered evidence of real-life subversion in the capital. Some foreign intelligence service—the main suspects were Russia and China, which also covets the Arctic’s future shipping routes—had planted so-called IMSI catchers, devices that can secretly capture the signals of cellphones, around Oslo’s government buildings. Officially, the perpetrator remains a mystery, but Norwegian sources tell Newsweek the government knows who did it but has shied from fingering the guilty party out of fear of triggering a full-scale international scandal.

Nesbø, whose 20 novels have sold 23 million copies in 40 countries, says the plausibility of *Occupied*’s plot is beside the point. The real drama revolves around “a situation where it’s hard to pinpoint what you’ve lost in your everyday material world,” he says. “What would people be willing to sacrifice for phrases like freedom, independence and democracy? And who would be the first ones to resist? And would the nation follow?”

### Guerrillas in the Arctic

Such questions are likely to rekindle unsavory memories of Norway’s capitulation to Germany in 1940 with the help of local Nazis led by the infamous Vidkun Quisling.



The Norwegian king and tens of thousands of patriots escaped to England, where they set up a government in exile and formed a resistance movement eager to go back and fight. Trained by Britain's secret services, the guerrillas of Norwegian Independent Company 1 eventually snuck back into the country and wreaked havoc on the Nazis.

Norwegians can't get enough of this version of themselves. Every Sunday night for six weeks in January and February, more than one of every five Norwegians sat down to watch the latest episode of *The Heavy Water War*, a dramatization of the heroic guerrillas' sabotage of Norway's stocks of deuterium oxide, which the Germans seized to produce a nuclear weapon.

The guerrilla mentality remains an important strain in Norway's military forces. Last year, Nils Johan Holte, the rangy, 57-year-old rear admiral who heads Norway's Special Operations Command, took 10 of his officers back to the training camp in Scotland, where the first guerrillas learned hand-to-hand fighting and explosives.

"It was about connecting with our origins...." Holte said as heavy snow fell outside his office in Oslo, "and for [the men] to understand that there's a seriousness today about this." It seems no accident that the headquarters of today's Norwegian guerrillas is on the grounds of the hulking, medieval Akershus Fortress, built to defend the city from sea raiders 700 years ago. In 1940, it was occupied by the Nazis.

In 1988 the Norwegian government nearly disbanded its special operations force, which was initially set up as a small, discreet anti-terrorist unit inside the armed forces, as a money-saving move. Protests, including from the oil industry, which feared attacks on its North Sea drilling platforms—saved it. Since then, its commandos have seen action from the Balkans to Afghanistan and many secret places in between. And last year, the unit became independent, reporting directly to the chief of defense.

Like other Norwegian commanders and politicians, Holte is discreet when it comes to characterizing the recent Russian moves as sinister. Asked directly about the threat, he leans back in his chair, folds his hands behind his head, and smiles. His lone message for any potential adversary: “Do not attack Norway. We can defend ourselves.”

*Jeff Stein is Newsweek’s national security correspondent in Washington, D.C. He can be reached more or less confidentially via [spytalk@hushmail.com](mailto:spytalk@hushmail.com).*





Rick Wilking/Reuters

# *WARREN BUFFETT'S TRANSPARENCY PROBLEM*

**DOUBTING THE BERKSHIRE HATHAWAY CEO AND CHAIRMAN IS LIKE CALLING YOUR GRANDFATHER A LIAR, BUT HIS SHAREHOLDERS DESERVE MORE TRANSPARENCY**

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Berkshire Hathaway, the giant conglomerate run for nearly half a century by lionized investor Warren Buffett, is drawing scrutiny for being less than crystal clear about how it is so profitable.



The questions from Wall Street analysts, insurance specialists and corporate governance experts put the spotlight on a behemoth with \$517 billion in assets that in recent years has grown increasingly opaque with its financial disclosures. Better known for giving shareholders a staggering return of more than 693,000 percent since its birth in 1965, more than 70 times that of the S&P 500, Berkshire Hathaway, one of the world's largest companies, is one of the least transparent corporations in America.

“There’s actually a tremendous amount we don’t know about parts of this company,” says Meyer Shields, an equity analyst who covers the company for investment bank Keefe, Bruyette & Woods. “It makes it incredibly difficult to assess the quality of earnings.”

With Berkshire Hathaway due in early March to report another year of strong profits and to release its eagerly awaited annual letter to shareholders, questions are growing over when the 84-year-old Buffett, whose fortune Forbes pegs at \$72.9 billion—making him the world's second-richest person—will retire. With a slowdown in earnings growth, Buffett's exit could challenge the “trust me” and “details not needed” aura cultivated for decades by the so-called Oracle of Omaha.

“You would think that Warren would want to become a standard for transparency, especially after the opaqueness in our banking system in the last cycle and the shrouded secrecy contained in the proliferation of derivatives nearly bankrupted the system,” says Douglas Kass, a hedge fund manager and critic of Berkshire Hathaway.

The famously populist Buffett has long nurtured an aw-shucks image through homespun aphorisms (“I try to buy stock in businesses that are so wonderful that an idiot can run them. Because sooner or later, one will.”) and a picture on the company's website that shows him surrounded by three smiling, miniskirted cheerleaders with pompoms as he sports a Berkshire Hathaway “activewear” Oxford shirt

with an embroidered \$100 bill on the pocket. The company's invitation-only annual shareholder meetings in Omaha, Nebraska, attract upward of 50,000 adoring shareholders and resemble religious revivals, complete with Buffett playing "Over the Rainbow" on his ukulele. Two years ago Buffett and his right-hand man, Berkshire Vice Chairman Charlie Munger, now 91, danced to "Gangnam Style" and starred in a Breaking Bad parody about cooking peanut brittle, not crystal meth, that ended with Munger declaring, "Brittle, bitches!," according to Kass, who was at the meeting.

An empire builder of the kind last seen during the Gilded Age of industrial magnates, Buffett has some 98 percent of his net worth tied up in Berkshire stock, according to Securities and Exchange Commission (SEC) filings. The world's leading philanthropist, he vowed in 2010 to give away nearly all of his assets. Just last year, he donated \$2.1 billion in Berkshire stock to the Bill & Melinda Gates Foundation.

Buffett's democratic, plain-speaking, man-of-the-people image ("I buy expensive suits—they just look cheap on me") belies the reality that he is an imperial chief executive. The evidence of that is not excessive compensation or outlandish perks but Berkshire Hathaway's increasing reluctance to disclose key details about the performance of its core insurance businesses. "You cannot see into the actual economics of the core businesses," says Jim Shanahan, who covers the company for investment bank Edward Jones. "They fall well short of the disclosure we've come to expect of other financial services companies, particularly in the insurance space."

In its most recent "Transparency in Corporate Reporting" annual report last November, Transparency International, a global watchdog group, gave Berkshire Hathaway a 35 out of 100, one of the lowest scores—and just above four Chinese banks and Russia's Sberbank.



Not that Buffett, who is both chief executive and chairman, doesn't pay lip service to transparency. At Berkshire's "Woodstock for Capitalists" annual meetings in May in Omaha, he mingles with ordinary shareholders, who this year will again be treated en masse to a steak dinner at Gorat's Steak House, a local joint. But he's also unapologetic about the opacity. "We much prefer to purchase \$2 of earnings that is not reportable by us under standard accounting principles than to purchase \$1 of earnings that is reportable," he writes in his "Owner's Manual," a manifesto-style treatise on Berkshire's website.

Berkshire Hathaway is nominally a financial services company, primarily through its auto insurer Geico and Gen Re insurance units. But functionally it is a sprawling mishmash of wholly owned (or close to it) businesses that include railroads (Burlington Northern Santa Fe, or BNSF Railway, North America's second-largest freight rail), a prefab trailer and mobile home maker (Clayton Homes), a private jet operator (NetJets Inc.), underwear (Fruit of the Loom), cookware (The Pampered Chef) and See's Candies, among five dozen other companies ranging from utilities and energy services to Oriental Trading and Dairy Queen. The company, with a market capitalization of around \$366 billion, made \$19.5 billion in profits in 2013 and also holds big stakes in Coca-Cola, Wells-Fargo, IBM and American Express.

For some businesses, like BNSF, Berkshire Hathaway discloses a good amount of detail on expenses, revenues, margins and cost allocations. But for other businesses, notably its core insurers, the company is a bit of a black box, because Berkshire Hathaway rolls up financial figures for its various businesses into a single, consolidated report broken down into broad "segments" that include multiple subsidiaries.

Unheard-of among large corporations, the company has no investor relations department to liaise with Wall Street,

and conducts no quarterly earnings calls. Its website looks as if it was designed by a high schooler, and Buffett does not allow recording devices at or provide transcripts from annual meetings. Calls and emails to Berkshire spokeswoman Carrie Sova to discuss this article were not returned.

Buffett, who effectively owns around 20 percent of Berkshire Hathaway's stock, acknowledges the lack of specifics. In his "Owner's Manual" he says that "because of the limitations of conventional accounting, consolidated reported earnings may reveal relatively little about our true economic performance."

Among the unanswered questions: How much risk are Gen Re and Geico, whose businesses are notoriously volatile, exposed to? It's not a question investors or analysts can answer easily, because unlike most big insurers, Berkshire Hathaway does not break out key metrics such as growth in written premiums, underwriting expenses, net earned premiums and the like. Under SEC rules, it doesn't have to.

For Clayton Homes, a risky consumer-lending business catering to typically lower-income borrowers, Berkshire Hathaway provides no disclosures on the degree to which it allows borrowers to assume big payments on homes of lower value, a key metric known as the loan-to-value ratio; on how many borrowers are delinquent on payments or borrowers' average credit scores; or on repossessions.

And what about Berkshire Hathaway's exposure to derivatives, the fancy financial contracts that upended Wall Street during the 2008 mortgage meltdown and credit crisis? (In 2002, Buffett called them "financial weapons of mass destruction.") Shanahan says, "We don't know what risks they're taking and whether the company should sell some of the businesses."

Nobody is suggesting Berkshire Hathaway is doing anything improper with its disclosures or accounting. But because insurance companies have different accounting rules

from financial services companies like Berkshire Hathaway, a lot of its insurance-related risks do not show up in SEC filings.

Jonathan Terrell, a former senior executive at Swiss insurer Zurich Financial Services and the founder and president of KCIC, a risk-management consulting firm in Washington, D.C., says that through a series of complex transactions involving transfers of losses from other insurers to Berkshire Hathaway, Buffett's company, unbeknownst to many observers, contains the biggest concentration of legacy insurance liabilities, mostly related to asbestos and environmental claims, in history.

Terrell cites a separate, required annual disclosure filed by Berkshire Hathaway's National Indemnity Company subsidiary, known as NICO, in 2013 to the National Association of Insurance Commissioners (NAIC), an industry regulator. NICO is the core Berkshire Hathaway subsidiary that handles loss transfers through a complex financial instrument known as retroactive reinsurance, a derivatives-heavy business in which an insurer assumes coverage for liabilities that were originally insured by another insurer.

In the NAIC filing, NICO estimated that it needed a whopping \$17 billion in reserves to cover retroactive claims on loss transfers related largely to asbestos and environmental hazards as of year-end 2012—by far the most of any company in the industry. The figure is in addition to the nearly \$2.6 billion in reserves for asbestos and environmental claims that Berkshire Hathaway reported in its SEC filings.

The eye-popping NAIC number is nowhere to be found in Berkshire Hathaway's SEC filings because publicly traded insurers do not have to disclose details to the SEC regarding loss transfers. The upshot, Terrell says, is that a company that tells shareholders it has set aside nearly \$2.6 billion is showing that it in fact needs to set aside more than



\$19 billion. “There’s nothing nefarious; it’s just misleading” to look only at the SEC filings, Terrell tells Newsweek.

Since early 2014, the Treasury Department has had a separate concern about the company’s size, according to a 2014 Bloomberg report citing unnamed sources: whether Berkshire Hathaway is “systemically important” enough to the U.S. and global economies to require federal supervision, with potentially tighter capital controls and liquidity requirements. A Treasury spokeswoman declined to comment, citing agency rules that ban confirming or denying such reviews by the agency’s Financial Stability Oversight Council unless the company itself goes public with them.

Berkshire Hathaway has endured troubles before. In 2008, a federal jury handed down criminal convictions to four senior General Re executives caught up in an accounting probe, but an appeals court overturned the convictions in 2011. In January 2013, a former top lieutenant to Buffett, David Sokol, escaped insider-trading charges by the SEC after he bought stocks in Lubrizol about two months before Berkshire Hathaway acquired the company for \$9 billion.

So why don’t shareholders clamor to know more, particularly in a climate of growing investor activism and heightened focus on transparency and governance?

Unusual for a company of its size, Berkshire Hathaway’s shareholder base is less large institutional investors with tricky questions and more mom-and-pop shareholders who, as long as their shares are growing, don’t need to know, or don’t know that they need to know. “Berkshire’s shareholders are not normal shareholders—they believe hook, line and sinker in Warren,” says Kass, president of Seabreeze Partners Management. James McRitchie, who runs [CorpGov.net](#), a widely watched blog, says that doubting Buffett “is like doubting your grandfather. He gets away with things others don’t.”

Only when Buffett retires—he chose a successor in 2012 but hasn’t named him or her—or if something goes badly wrong might things become clearer. One of his favorite sayings is, “Only when the tide goes out do you discover who's been swimming naked.”



Susana Vera/Reuters

## *THE KEY TO YOUR HEART, AND GARAGE AND...*

**OWNERS OF 3-D PRINTERS CAN ALREADY MAKE THEIR OWN UNTRACEABLE FIREARMS, SO WHY NOT ADD TOOLS FOR ILLEGAL TRESPASS TO THE MIX?**

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Owners of 3-D printers can already make their own untraceable firearms, so why not add tools for illegal trespass to the mix? A few lock-geeks are using custom 3-D software to print plastic keys that open standard and even high-security locks. Two MIT students have already



developed software, Photobump, that allows them to order a “bump key” from any online 3-D printing service provider—all they needed to do was upload a photo of a keyhole.

A lock picker designs and cuts a bump key to touch all the pins in a lock. Once he inserts the key into the lock, he taps, or “bumps,” it with a mallet. The resulting vibrations get the pins to jump up to align with the patterns in the lock. It’s a pretty effective lock-picking tool; even many locks sold as “bump-proof” can sometimes be bumped open.

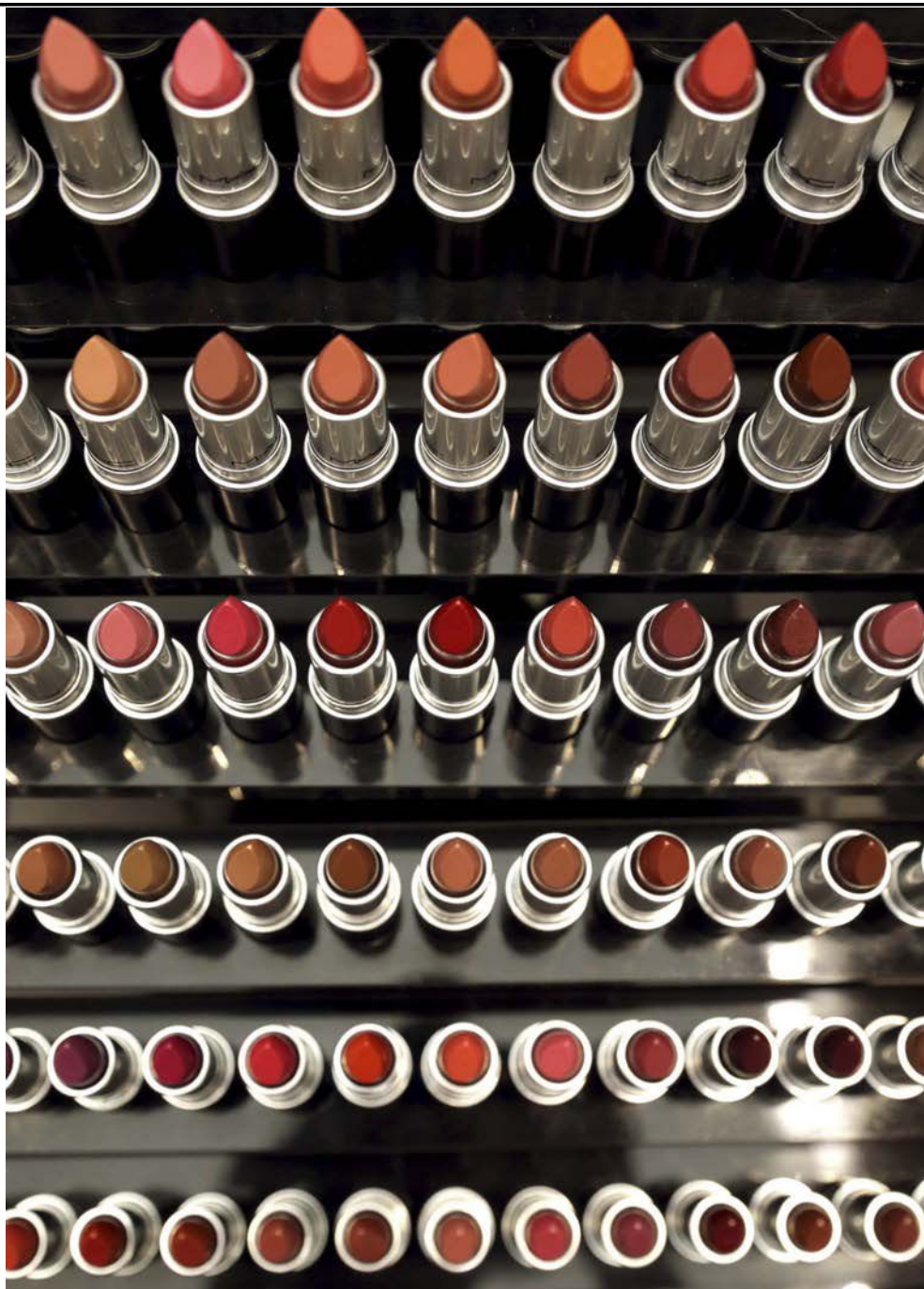
Last year, the MIT students **demonstrated** their bump key-ordering software at a **conference** by sending their key request to a Belgian 3-D printing service company, **iMaterialise**. The company complied, but afterward said that had the students’ “intentions been known,” it wouldn’t have printed the key. In addition, iMaterialise instituted a policy saying it won’t print anything that poses a security risk.

However, policies like these won’t stop people with 3-D printers from doing it. And anyone with the right device and astute software skills can make a bump key, says Jos Weyers, a champion lock picker and vice president of the Open Organization of Lockpickers (**ToooL**), a Netherlands-based organization of competitive lock aficionados. “I know a couple of guys who wrote their own similar app within a weekend” after the Photobump demo, says Weyers. “An average technical person could write the needed software quite easily. A normal lock you buy at Home Depot would be quite doable.” Already, high-quality printers can produce working copies of standard household keys. And as household 3-D printers get better, it’s just a matter of time before anyone with a high-quality home 3-D printer will be able to print out a high-security bump key.

With just a few brands of locks dominating the U.S. home lock market (compared with Europe, where there are hundreds), American locks are especially vulnerable to burglars with bump keys. Says Weyers, “In the U.S., if a

burglar had one bump key for Schlage locks and another for Kwikset, he would own more than half the town.”

Though one of the MIT students, David Lawrence, has posted the **specs** for how to print out 3-D keys online, the other, Eric Van Albert, hopes their demonstrations will expose the vulnerabilities of mechanical locks, and encourage greater reliance on keyless, digital locks.



Philippe Wojazer/Reuters

## *MEET KEVIN ASHTON, FATHER OF THE INTERNET OF THINGS*

**THE INTERNET OF THINGS IS LIKE RELIGION:  
EVERYWHERE AND HARD TO EXPLAIN.**

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The Internet of Things started in the mid-1990s, when a quirky young brand manager in the U.K. puzzled over why a shade of brown lipstick kept disappearing from store shelves.



The story matters because the Internet of Things, or IoT, has become prodigious yet ephemeral, as difficult to grasp and explain as the Holy Spirit. Cisco CEO John Chambers declared that IoT will generate **\$19 trillion** in profits, which isn't helping because, frankly, when you cite such an unfathomable number it's hard not to sound like you're pulling it out of your ass. Cisco, General Electric and swarms of startups have hitched their futures to IoT.

Like a lot of innovations, IoT grew out of a new solution to an old problem, and now it's opening up new solutions to a whole host of problems. And like a lot of innovations, IoT happened less by magic and genius than by a lot of small steps and bits of luck.

**Kevin Ashton** was born in 1968 in Birmingham, England, to a single mother who soon moved to London and bought her son an Apple II. He liked to mess with programming, but it wasn't really his calling. Mostly, he liked to write. As a teenager, Ashton deejayed around Europe, wound up in Norway, learned to speak Norwegian and read a lot of Henrik Ibsen.

At 21, he decided maybe it was time to go to college, and he heard about a Scandinavian literature program at the University of London. Since not a lot of people who applied to the program spoke Norwegian and had gorged themselves on Ibsen, Ashton got in.

While at the university, he joined the student newspaper and became its editor. He got friendly with representatives of one of the newspaper's biggest advertisers, Procter & Gamble. By graduation, he was disillusioned with journalism—"Not quite the truth-seeking missile I'd hoped it would be," he says now—and instead got involved in a hip noodle-bar startup called **wagamama**. This being 1995, Ashton was going to help wagamama establish an Internet brand, because the Internet was the most exciting thing ever. But founder Alan Yau didn't have the money for that,

and Ashton split. Wagamama now operates more than 140 restaurants all over the world.

Ashton's old friends from P&G offered him a job. They worked in cool offices in London, which is why he said yes. He got assigned to help launch a line of cosmetics for Oil of Olay.

Since Ashton was young and curious and didn't know what he shouldn't have to worry about, it bothered him that he'd go into his local store and find that one shade of lipstick in his cosmetic line always seemed to be sold out. He checked with P&G's supply chain people, who told him plenty of that color were in the warehouse. They suggested it was a coincidence—that Ashton happened to go into the one store that couldn't keep that color in stock. But Ashton didn't buy it: He wanted to know where his lipstick was, and what was happening to it. No one could tell him.

In the 1980s and '90s, retailers invested in bar code **scanning systems** and thought the systems gave them a grip on inventory. But bar codes couldn't relay much about a product's location. "This illusion of perfect information created by the bar code was just way off," Ashton says. His notion that there had to be a more thorough way to track products intrigued P&G's leaders in Cincinnati, and they asked him to explore the idea.

About the same time, U.K. retailers began experimenting with loyalty cards embedded with a brand-new technology: a tiny "radio-enabled" chip, later called **RFID**. One manufacturer of the cards showed Ashton how the chips worked, noting that the small bits of data on the chips could be transferred wirelessly, without a reader.

Driving in traffic, a thought occurred to Ashton: What if I took the radio microchip out of the credit card and stuck it on my lipstick? If a wireless network could pick up data on a card, it could snatch data off a chip on a lipstick package and tell the store what was on the shelves.

P&G was a sponsor of the Massachusetts Institute of Technology Media Lab. (Half of corporate America was sponsoring the Media Lab at the time.) This led to meetings between P&G, Ashton and MIT, which in turn led to P&G loaning Ashton to MIT to set up the **Auto-ID Center** to study RFID and the potential for “smart packaging.”

New ideas never happen in a vacuum. In 2000, MIT physicist Neil Gershenfeld published a book, **When Things Start to Think**, about adding data to everyday items. Gershenfeld’s work influenced Ashton. P&G’s executives listened to **Don Tapscott**, a Canadian author who talked about how ubiquitous networks and data would transform corporations. Ashton gave hundreds of presentations to corporate leaders about the potential of RFID and how each chip was able to talk to a wireless network and reveal a little data about itself. By 2003, the Auto-ID center had 103 sponsors, branches around the world and commitments to standards so any smart package could talk to networks at suppliers and retailers.

Standards helped the market develop, and money poured into making the chips better and cheaper. The media started picking up on stories about, for instance, supermarkets where you could fill your cart with stuff and check out in a second by wheeling past a wireless reader. Startups sprouted in the space, including **ThingMagic** in 2002. Ashton left the Auto-ID Center to join that company.

By the 2010s, corporations started seeing that The Next Big Thing would be networking the physical world and gathering data from everything. Consultants like McKinsey wrote **reports**. IBM drew up its **Smarter Planet** campaign, evoking a world soaked in data from things. Cisco, GE and others leaped in. IoT technology opens up ways to help cities manage congestion, track balls and players in baseball to collect data to better understand the sport, and let medical devices call for help when readings look bad. IoT devices are finding their way into **Barbie** dolls and making **Congress**



worry that all networked things will spy on people. And it all flows from Ashton's question about brown lipstick.

Ashton isn't very well known. **Tim Berners-Lee** gets credit for engendering the Web. **Douglas Engelbart** is lauded for designing the first modern PC. Rarely in a conversation about IoT does anyone point to Ashton as the father of it all.

Ashton seems to be OK with that. He's worked at a few IoT star-ups, including one he founded. He's now living in Austin, Texas, and writing. He just published a **book**, *How to Fly a Horse: The Secret History of Creation, Invention and Discovery*. It's about the way innovation really happens, which is less by magic and genius than by a lot of small steps and bits of luck.

In other words, it's what he learned while setting in motion the Internet of Things.





Martin Parr/Magnum

## *THE SEARCH FOR THE PERFECT SUGAR SUBSTITUTE*

**A JAPANESE SCIENTIST HAS FOUND A WAY TO MAKE  
EXOTIC SUGARS THAT DON'T PACK ON THE CALORIES.  
IS THE WORLD READY FOR THEM?**

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Think of all the kinds of sugar: white for cakes, brown for cookies, powdered for frosting, turbinado for single-origin pour-over coffee, simple syrup for brandy old-fashioned cocktails. Despite these different forms and uses, chemically speaking, they're all the same, made of



a molecule called sucrose. Sucrose and its even simpler component parts, fructose and glucose, are packed with energy—but also calories. The ubiquity of sugar is a growing problem for global public health, as obesity has reached epidemic levels in some parts of the world.

But there are other sugars with nearly identical yet fundamentally different chemical structures, dozens of them, including some that taste just like table sugar but have almost zero calories. And now a Japanese scientist who had been working in obscurity for decades has found a way to make them all, using a microbe he found in a garden.

Since 1968, Ken Izumori has been a professor of biotechnology at Kagawa University, a research outpost on Shikoku, the smallest of Japan's four main islands. About a two-and-a-half-hour train ride from Hiroshima, it's far from the center of the international scientific community. Izumori's specialty is rare sugars, rings of carbon, oxygen and hydrogen atoms that are similar to fructose and glucose but far less abundant in nature. He never set out to address major health problems like obesity and diabetes, but that might be the fruit of his research. He's found a way to harness the power of biotechnology to mass-produce exotic sugar crystals that taste just as sweet as sucrose, or fructose or even glucose, but have only a tenth of the calories. "It cooks the same, it looks the same, but it doesn't have any calories," says George Fleet, a professor of organic chemistry at Oxford University. "It looks as though it's almost too good to be true."

But it is for real. It's called allulose, and it has the potential to be the best sugar substitute since Splenda, possibly even better. And, backed by a body of scientific evidence showing its safety in animal and human testing, it could soon show up on supermarket shelves in the U.S. It's poised to succeed where so many other substances like it have come up short.



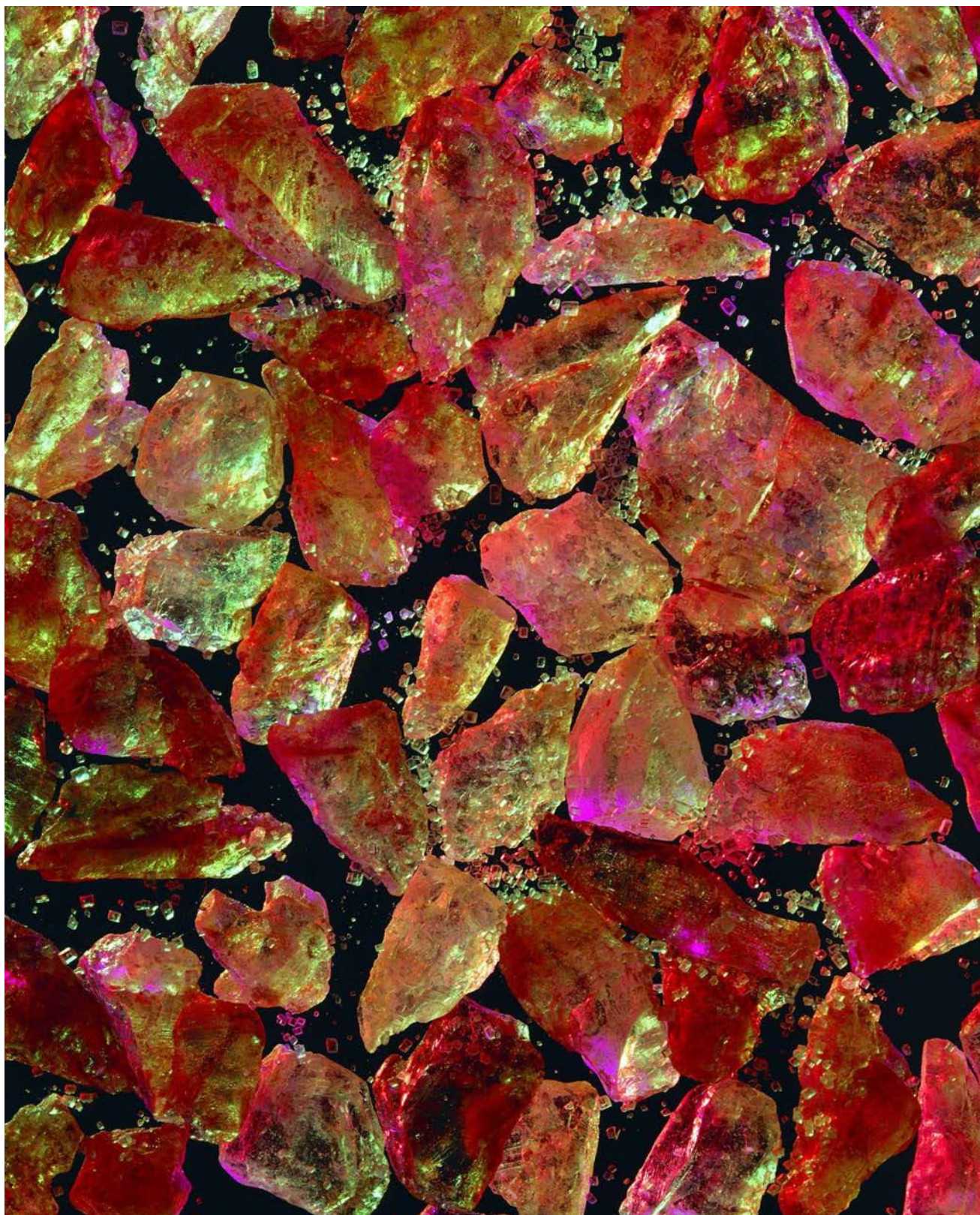
Allulose couldn't come to the table at a better time. Sugar, it turns out, is sinister. While it tastes great in the moment, there's a growing pile of studies showing that it's making the U.S. overweight and sick. "There's no question it contributes to the obesity problem in America," says Kelly Brownell, a food policy expert at Duke University. "It also is a logical place to intervene when one wants to improve the American diet."

There are reasons we like sugar so much. One of them is that our ancestors evolved in an environment where they had to forage for food. "The foods that are sweet tend to be safe," says Nicole Avena, a researcher at Mount Sinai-St. Luke's Hospital in New York who studies the effects of sugar on the brain. "Fruit that's ripe and is good to eat tastes sweet. Fruit that's rotten and could potentially kill you will not."

Today, our evolutionary affinity does more harm than good. Sugar can cause obesity, which can lead to diabetes and heart disease. It can also rewire your brain to behave like a **drug addict's** and may even help kick-start cancer. And the tantalizing abundance of sugar means it's going to be hard to give up. That's why allulose, so similar to the sugars we are used to, could be such a promising solution.

There is, of course, an entire industry of alternative, lower-calorie sweeteners, which has yielded staples like aspartame and Splenda. Yet nothing has ever been a perfect substitute for sugar. Aspartame, for example, has that distinctive "Diet Coke" aftertaste. Because sugar supplies structure and moisture in many baked goods that other sweeteners can't mimic, Splenda has an entire **webpage** committed to reducing expectations when baking with it.





*Crystals of preserving sugar (sucrose) with smaller granulated household sugar crystals sprinkled in. Sugar is extracted from sugar cane or sugar beet. Preserving sugar is used mainly in the preparation of fruit: once boiled with these large sugar crystals the preserved fruit can be placed in long-term storage.* Credit: Adam Hart-Davis/Science Source

Allulose could be all the things those aren't. Though rare, it's completely natural. Only one plant, a shrub called *Itea virginica*, is known to produce it, but through the chemistry of cooking it's already present in the foods we eat. "People eat small amounts of it all throughout their lives. When you cook sugar, you're always going to get some," says Fleet.



Chocolate chip cookies, raisins, Worcestershire sauce and even Coca-Cola all contain trace amounts of allulose.

Fructose and allulose have the same atomic components—six carbons, 12 hydrogens and six oxygens—but differ in the placement of one oxygen and two hydrogen atoms. This makes them what are called chiral counterparts, essentially having different “handedness”—a trait that makes all the difference in how the body recognizes them. Exactly why allulose doesn’t have as many calories as fructose isn’t completely understood, but studies show that rats don’t gain any weight when fed a diet of allulose, but do when given the same amount of fructose. When humans eat it, we basically piss most of it out.

What we know about allulose is due almost entirely to the tremendous efforts of Izumori. Because rare sugars like allulose aren’t found in large quantities in nature (and are costly to reproduce in the lab—just a single gram of allulose with complex chemistry costs hundreds of dollars), scientists didn’t pay much attention to them. Izumori, who turns 72 this year, worked for years on rare sugar until he made a breakthrough discovery in 1999: an enzyme that rearranges atoms in single-ring sugars and could make allulose out of fructose. It was entirely serendipitous. Izumori discovered the enzyme in a microbe that originally came from the dirt in a garden behind the campus cafeteria. “I couldn’t believe the result,” he says. The enzyme wasn’t supposed to work on fructose. “But I tried many times and confirmed.”

He quickly began designing a bioreactor, a big vessel he could use to make larger quantities of allulose. It’s a relatively simple process: grow the bacteria, harvest their enzymes and let the enzymes get to business on a big vat of fructose. Separating the allulose from that sugary muck proved tricky, but in 2000, with the help of a spiffy new instrument called a moving bed chromatograph, he made a big step forward and began producing allulose by the pound.



He still keeps a portion of this first large-scale batch in a crystal chalice in his office.

Izumori now has the attention of not only the scientific community but also major food manufacturers in the U.S. and Europe. Allulose has the potential to be a commercial Godzilla: “There are many other rare sugars which are likely to be beneficial in different ways,” Fleet says, “but commercially, allulose is the major breakthrough.”

The Matsutani Chemical Industry Company has taken on the speculative task of bringing allulose to market. Matsutani has been working with Izumori to scale production almost since the beginning, in 1999, when the company’s CEO saw him talking about allulose on Japanese TV. Yuma Tani, a researcher at Matsutani, said that his company has invested tens of millions of dollars into mass-producing allulose. It’s a big bet in an industry that has yet to score with chiral sugars.

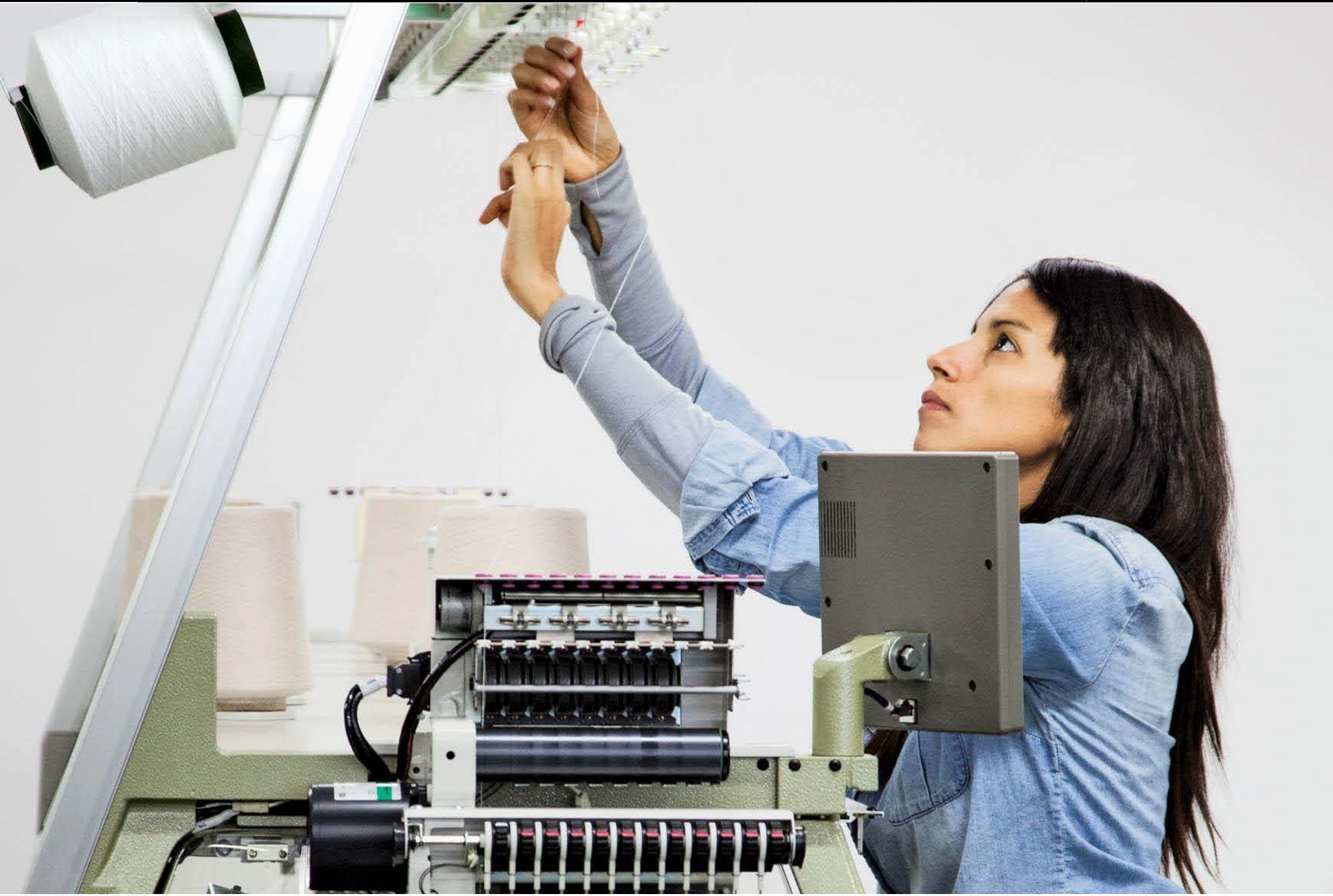
Allulose isn’t the first rare sugar to take on high-calorie sucrose and fructose, but the others, “left-handed” sucrose and tagatose, were either too expensive or just **not good enough** to be commercially viable. For example, in 1980, Canadian scientists tried to cash in on the discovery that table sugar had a calorie-free chiral twin and submitted a patent for a method to make left-handed sucrose as a sweetener; however, the chemistry is far too complex and expensive to produce that sugar on an industrial scale. A 2004 story in **Wired** recounted how former NASA engineer Gilbert Levin tried to commercialize tagatose, a rare sugar with about 40 percent of the calories of sucrose; a decade later, tagatose is still not widely available.

It doesn’t look as if allulose will hit the same snags: By tinkering with Izumori’s enzyme and scaling production, Matsutani is able to produce allulose for less than \$5 per pound. That’s already a viable commercial price—Splenda, for example, sells at around \$15 for a one-pound bag—and Tani predicts that the price will only go down from there.

Allulose has already passed a review by the U.S. Food and Drug Administration, which deemed it “generally recognized as safe” in January 2014, making it eligible for use in food. Any product that uses high-fructose corn syrup—ranging from soda to ketchup—could replace it with allulose syrup, Tani says, with no change in formulation. Matsutani can also make a crystallized version to mimic table sugar. The company has been holding information sessions with major food and beverage manufacturers in the U.S., several of which have already lined up as customers, he says, though he wouldn’t disclose which ones.

If Matsutani succeeds, it could make Izumori a lot of money, though he says he’s not very interested in profiting from allulose. In fact, along with other experts in the field, he’s already moving on to a new line of research: investigating the possibility that allulose is even more than just a low-calorie sweetener. Preliminary studies hint it could lower blood-glucose levels in diabetics, which would help protect against the most damaging complications of diabetes, like blindness and kidney failure. Marketing any of allulose’s alleged health benefits would be a whole other game. It’s one Matsutani is interested in playing—Tani says they’re conducting clinical trials in Japan—but first they will attempt to convince food manufacturers to adopt it and give them time to formulate their products with it.

There may be even more rare sugar varieties in the future. The enzyme Izumori found was the key to unlocking more than 30 other single-ring rare sugars, and what is now known as the “Izumoring” process has opened the door to a whole new field of rare sugar science. “Nature is very, very clever with sugars,” Fleet says. “They’re very simple molecules, and nature does everything in the world with them. [Allulose] is the tip of the iceberg. There’s a lot more to be done with this science.”



Peter Tannenbaum

## *ROBOTS WILL SOON BE MAKING YOU A CUSTOM-FITTED SWEATER*

**"WE COULD TAKE OUR PATTERN, PUT IT ONTO YOUR  
AVATAR, ADJUST THE PROGRAM SO IT'S A PERFECT FIT  
AND PRINT IT OUT."**

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The deadline for the order of neck warmers is mere days away, and less than half of them are complete. The seconds continue ticking by, yet the staff is nonplussed. They don't



feverishly knit while their fingers cramp. They aren't bent over sewing machines whirring away in a poorly lit room. And they won't ever cower before their supervisors, fearing that losing a moment's work means losing their livelihood.

That's because this isn't a sweatshop. It's the Apparel Lab of **the Pratt Institute Brooklyn Fashion + Design Accelerator**, an incubator launched by the school to support emerging designers. Housed in a newly renovated wing of an old Pfizer factory on the border of Brooklyn's South Williamsburg and Bedford-Stuyvesant neighborhoods, BF+DA aims to bring together enterprising minds in fashion, industry and technology.

The neck warmers being produced in the Apparel Lab today will be sold at a BF+DA pop-up shop, which is as much an introduction to the months-old accelerator as a market for its members' wares. And the staff producing the neck warmers? Knitwear Director Kelly Puertas has already set down the design; the rest is up to the SSR112 and the MACH2X.

The SSR112 is a computerized flat knitting machine and looks like a dining-table-sized ink-jet printer. Glass panels along its sides allow you to see how it operates: Following cues from Puertas's input to the SDS-ONE APEX3 design software, a carriage in the knitting machine zips back and forth unspooling a length of yarn to two beds of needles arranged in a V shape, which hook and tuck the fabric to create stitches. Repeat over and over again at a speed of up to 3.9 feet per second, and in just 10 minutes you've almost completed one of BF+DA's peak-patterned, 100 percent Merino wool neck warmers. All that remains is to connect the fabric at the ends to close the loop.

"Flat knitting machines knit shapes—back, front, sleeves, for example—that then get linked together to complete the garment," says Puertas. In other words, though the SSR112 can make stitches, it cannot create something with depth and shape, like a sweater.

That's where the MACH2X, a whole-garment knitting machine, comes in. Using four needle beds, it is able to produce complete garments that require no extra linking.

"The whole-garment, or seamless, process knits the whole garment at once, moving from the bottom up, so the back and front are attached together like a tube," Puertas explains. "The arms are two tubes on either side. When it gets to the shoulders and neck, the knitting machine attaches them together and then creates the neckline, so it comes off of the machine complete. It's a bit like a 3-D printer."

The SSR112 and the MACH2X are manufactured by the Japanese company Shima Seiki, which introduced its first computerized flat knitting machine in 1978 and WholeGarment knitting machine in 1995. Both milestones were also achieved shortly after by Stoll, a German manufacturer and Shima Seiki's largest competitor.

Today, computerized knitting machines are employed at all levels of garment production where the capital is available and applications appropriate. Though their prices may seem dear—BF+DA's SSR112 and MACH2X cost about \$250,000 together—the machines are able to handle all kinds of work, sans that which requires heavier gauges of yarn. So while BF+DA's mission to serve emerging designers means its facilities are reserved for small-scale production runs, the technology it's using is quite often in the hands of mass manufacturers.

"When we were training in Japan, the other people had bought 50 to 100 machines," BF+DA founder and Executive Director Debera Johnson says, recalling her peers at Shima Seiki's orientation program. "They're using this type of technology only in a manufacturing environment where it's about knocking out units."

Yet despite the 20-year existence and industry use of computerized knitting technology, the pervasive image—and reality—of the sweatshop endures. That's partially because many aspects of garment production, such as cutting and

sewing, haven't been fully automated, but also because the story of these machines hasn't been widely told. "Eileen Fisher is a great example of really trying to tell a complete story," Johnson points out, highlighting the clothing brand's efforts at transparency. Its "& Behind the Label" campaign, for example, explains to consumers where a garment's materials were sourced and how the final product was manufactured, but even it gives only a passing mention of computerized knitting machines.

"Patagonia is another company that tries to be incredibly transparent about their supply chain and who's making what and where it's coming from," Johnson continues. "But it's a small percent of the industry."

Nike has continued to aggressively hire professionals with experience in computerized knitting design software following the 2012 release of **Flyknit**, the company's first shoe made almost entirely on machines like the SSR112 and MACH2X. "Nike's got the Stoll machines, the Shimas, they have a whole innovation center around knit," Johnson explains. "It's a big part of their innovation technology."

And innovation, rather than any ethical concern, may be what pushes computerized knitting machines into the spotlight. Beyond their labor-saving advantages, the degree of precision and customization that the technology offers may transform the future of clothing retail. "If you start to combine this with technologies like body scanning," Johnson says, "we could take our pattern, put it onto your avatar, adjust the program so it's a perfect fit and print it out."

Puertas mentions that Shima Seiki's Japanese headquarters already houses a body scanner reserved for VIP guests. And just last summer, **Body Labs**, a company that commercializes body-scanning technology, released a beta version of its software that allows users to create 3-D models of themselves with the Microsoft Kinect motion-sensing device.



Johnson says that within 10 years we'll begin seeing retailers incorporate body scanners and avatars into the shopping experience. These technologies will be able to assist customers to find their exact sizes and also to order customized garments. "Wouldn't you just love the perfect fit? How many pairs of jeans do you try on before you find something you like?" Johnson asks, hinting that the SSR112 and MACH2X may soon become paragons for both the shopaholic and the fair labor advocate.



Christian Sinibaldi/eyevine/Redux

## *KING OF LAD LIT NICK HORNBY ON WRITING STRONG WOMEN*

**NICK HORNBY IS SUPPOSED TO BE A GUY'S WRITER BUT HIS FEMALE CHARACTERS KEEP BURSTING OFF THE PAGE AND SCREEN.**

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“You don’t walk into lampposts when you’re reading literary novels.” So wrote Nick Hornby in his Believer column “What I’ve Been Reading,” and though he was praising Dennis Lehane’s *Mystic River*, he could have been talking about his own best-selling books. *Funny Girl*,

his new novel about a fictional BBC comedy series in the '60s, is not a literary novel. It skips effortlessly like a stone skimmed across the water, and though the stakes are not of the revenge-murder sort in Lehane's book (nobody dies), it's hard to put down. Think Jane Austen (unrequited or thwarted love), if her characters were worried about their show being renewed.

Hornby laughs when I tell him that three generations of women in my family love his books. "If you write fiction and the fiction isn't about people killing people, if you don't get women, you've got no one," he says. "Which is funny 'cause I was supposed to be the guys' writer."

The books that got him pegged as such—*High Fidelity* and *About a Boy*—were both successfully adapted for film and appealed to female readers perhaps because of their guy-ness. When I first read *High Fidelity* (1995), the story of a hapless record store owner who sets out to unravel the mystery of why women keep dumping him, I thought, This should not fall into the hands of women.

"And of course they all ended up reading it for exactly that reason," he says.

We are talking in the green room at San Francisco's Nourse Theater, where the 57-year-old author and screenwriter has come to read from his new book and answer questions, all part of the City Arts and Lecture program and a benefit for *The Believer*, a nonprofit magazine. It's the end of a busy six months for him, doing promotion for *Wild*, the film based on Cheryl Strayed's memoir, for which he wrote the script; and for *Brooklyn*, his adaptation of Colm Tóibín's novel, which was sold at Sundance to Fox Searchlight for \$9 million. And then promoting the publication of *Funny Girl*, his seventh novel, which had just entered the New York Times best-seller list at No. 9 the night we met.

There have been a few bumps along the way. A TSA agent on a trip from Toronto tried to tell him he couldn't enter the country to do a book tour without a green card (the



agent was wrong, but by the time that got sorted out he had missed his flight and an event in Chicago), and his wife, back in London with the kids, got sick. But Hornby seems pretty unflappable. He listens to my questions and then attempts to answer them (as opposed to that media-training trick of leaping over what was asked to say something scripted and “on message”), and when he looks at you, you feel really seen. This is a man who likes people.



*High Fidelity, perhaps Hornby's most famous film adaptation, earned the writer his reputation as a writer of the young male psyche.* Credit: Touchstone

Funny Girl is about collaboration—a team of creative people trying to make a domestic comedy better than it has to be. The funny girl of the title, Barbara Parker, comes to London from Blackpool (where she had just been crowned the seaside town’s beauty queen) to pursue her dream of being a comedienne of Lucille Ball’s stature. Here she is describing a popular farce of the day: “It was full of young women in their underwear and lustful husbands caught with their trousers down, and their awful, joyless wives. What it was really about was people not having sex when they wanted it. A lot of British comedy was about that, Barbara

had noticed. People always got stopped before they'd done it, rather than found out afterwards. It depressed her."

England back then was finally getting over the traumas of the Second World War, and Hornby had already immersed himself in the period while writing the script for 2009's *An Education* (for which he was nominated for an Academy Award). He talks with great enthusiasm about the "hilariously well-researched" books of historian David Kynaston. "What you end up with is this, I find, incredibly moving portrait of a country changing month by month, using 1945 as a kind of year zero," he says. "There's not much left of London; the structure's gone, our economy is in ruins. It wasn't really until 1960 that we started to pick ourselves up.... And the '60s was the first time we all had televisions."

British TV was changing as some notable writers pushed against boundaries, bringing in references to race, class and, yes, sex. (Ray Galton and Alan Simpson, creators of *Steptoe and Son*, which Norman Lear repurposed as *Sanford and Son* in the U.S., were models for *Funny Girl*'s writing duo.) But there was no British equivalent to *Lucy*, or for that matter *Marlo Thomas* or *Mary Tyler Moore*. "Our comedy was actually pretty blokeish," says Hornby. "Even something like *Monty Python*, there's a woman who runs around in a bikini sometimes and the guys dressed as women. There were no women invited to join the club." Making *Barbara*, who rechristens herself *Sophie Straw*, a national sensation "was my little bit of alternative reality."

How he came to be regarded as a go-to guy for writing women's roles is a testament to his empathetic skills. He's had women protagonists in his novels (most notably the 2001 marriage comedy *How to Be Good*) and he was the one who brought his wife, independent film producer *Amanda Posey*, the short memoir by *Lynn Barber* that *An Education* was based on. (Posey also produced *Brooklyn* and *Fever Pitch*, the film version of Hornby's memoir about being a

rabid Arsenal fan.) When someone in the Nourse audience later asks him about writing women, he quotes one of his favorite authors, Anne Tyler, who was asked how she writes such good men: “The moment you write about someone who isn’t yourself it gets difficult.”

Still, his best-known books are about men, or boy-men, having to grow up. *High Fidelity* and *About a Boy* are perhaps popular with women because they show men struggling to be better, and they reassure them that beneath the sports talk and record cataloging, there’s a compassionate person in there. “Both of those novels were written after the birth of my son, who was born quite severely disabled,” he says, speaking of Danny, now 21, who was diagnosed as severely autistic at an early age. “I don’t think it was something I was directly addressing in the material. I think possibly it gave me more of a moralist’s eye than I might otherwise have had. There was a sense of, Come on, guys: You’ve got it easy. Let’s pick it up a bit.”

Alarmed by the lack of educational resources for autistic children in the U.K., Hornby helped establish a special school in London called TreeHouse, which now has about 80 students, and he remains active in the charity Ambitious About Autism. (The 2000 short-story anthology he edited, *Speaking With an Angel*, featuring stories by Helen Fielding, Zadie Smith and Robert Harris, raised money for the school.) He has been candid about the difficulties of raising a severely disabled child (Danny has round-the-clock care) and the effects it had on his marriage to Danny’s mother, Virginia Bovell, whom he divorced. “Having Danny is like the stress of having a newborn permanently,” he told *The Guardian* in 2000. “That kind of disruption with a newborn’s first weeks, and there’s no change to that.

“It actually becomes very awkward trying to keep things private,” he tells me. “You end up being dishonest when you’re talking about work or talking about anything. People like you might ask how my son is—’Oh, he’s 15? He’s



got to be chasing girls.... ’ And at that point you either say, ‘Yeah, he’s chasing girls,’ or you say, ‘Look, he’s not chasing girls. He’s not going to be chasing girls.’ So once I started talking about that it seemed the best thing to do was to put that to some use”—which in his case meant helping establish TreeHouse but also raising awareness about autism through interviews and the anthology.

His handler comes in with piles of *Funny Girl: Time to start signing*. We talk a bit about Charles Dickens, who keeps popping up in *Ten Years in the Tub*, a collection of 10 years of his *Believer* book column. “Here’s a guy who was writing two of the greatest novels in the English language at the same time because he had mouths to feed,” he says, scribbling his signature onto the frontispiece of book after book. “He was a magazine editor, he was a social reformer—there’s a lot more to the guy than writing.... Also just that thing of being an immensely popular novelist and in his lifetime he couldn’t buy a review of *Bleak House*, for example; people thought it was rubbish. And the idea that he could survive that and become something else is a very useful story.”

To say Dickens’s critics missed the point is sort of like saying Columbus missed India: easy to make that judgment from this remove. They thought he wrote so much because it was easy (ignoring the amount of research he did for each book, the estimated 13,000 characters he created), just as a lot of people read Hornby and say, I could do that! When asked about *Slam* (2007), his ostensible YA novel, he tells the crowd, “It’s always been a dream for me to write the most complicated book imaginable with the simplest language.”

Which could be why he draws a crowd.



AP

## *RELIVING SELMA'S 'BLOODY SUNDAY'*

**PROTESTS COME TO LIFE IN THE WORDS OF ONE WHO  
WALKED THE WALK.**

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Sam Walker walked out of school in January 1965 and headed for Brown Chapel AME Church. He knew that once he picked up his placard and joined the other activists heading for the courthouse, he might be arrested by the racist sheriff, Jim Clark, and thrown in jail. But he was not deterred...even though he was only 11 years old.

On January 2, 1965, Martin Luther King Jr. helped break an illegal injunction against public assembly and freedom of speech in Selma, Alabama, with a massive public rally. Sixteen days later, protests began, mostly composed of local students. Most were in high school, but Walker tagged along with his 16-year-old brother, Willie. “The first time I was arrested I was with one of Willie’s friends, and the second time I was with my brother, so I wasn’t scared,” Walker recalls. “They shoved about 15 or 20 people in a cell meant to house one or two people.”

Across the South—in Atlanta, Georgia; Memphis, Tennessee; Greensboro, North Carolina; and Montgomery, Alabama—museums have material on the civil rights struggle of the 1950s and 1960s. Most are larger and have more impressive displays than the National Voting Rights Museum and Institute in Selma, but Sam Walker’s presence as historian and tour guide makes its presentation perhaps the most memorable experience of them all.

Selma, Ava DuVernay’s film—a Best Picture Oscar nominee—tells the story of the events surrounding “Bloody Sunday” on March 7, 1965, when Alabama Governor George Wallace sent state troopers to attack civil rights protesters crossing the Edmund Pettus Bridge, and the triumphant march from Selma to Montgomery that began on March 21 and ended March 25 with King speaking in front of 25,000 people at the state capitol.

DuVernay’s movie has reminded audiences of the bravery and determination of King and civil rights leader (and later congressman) John Lewis, as well as of lesser-known local figures like Amelia Boynton Robinson, Annie Lee Cooper and the Reverend Frederick Reese. Walker, however, has been telling their stories daily for years, but with a unique perspective: When he tells visitors about Reese, Robinson and other members of the Courageous Eight—Dallas County Voters League members who met in secret after Alabama judge James Hare banned group



meetings discussing civil rights—he is talking about people he has known nearly his entire life.

“Now I get to relive that history every day,” says Walker, who is on the coordinating committee for the Bridge Crossing Jubilee, an annual four-day event the museum has held for more than 20 years. (President Barack Obama is expected to attend this year's 50th anniversary celebration, which runs March 5 through 9.)

On tours, Walker points to the metal basin in the museum's re-created cell and recalls the days he was locked up. “If they kept you less than 24 hours, the law required that they only give you water, so that's all they gave us.” He also vividly recalls a day no arrests were made. On February 10, Sheriff Clark forced 160 students on a three-mile march out of town, his officers harassing them with clubs and cattle prods. “They were all right on top of you,” Walker says. Clark's men backed off only when some older students picked up bricks and turned on them. “That was when we realized those people were cowards,” he says.



*Selma to Montgomery civil rights marchers hold American flags on March 25, 1965 in Montgomery, Ala.* Credit: Stephen F. Somerstein/Getty

The museum covers the entire struggle in Selma, but the Bloody Sunday stories stand out. Walker's parents kept him home that day (his father provided transportation for protesters, while his mother cooked meals for organizers at the church), but his brother Willie was there. "He got tear-gassed, and when he came in the house with his eyes all red, you could see the fear on his face," Walker remembers.

Walker believes the museum's greatest contribution has been in collecting the stories of everyday citizens, those even less known than Reese or Boynton Robinson, who was beaten unconscious on the bridge and who, at 103, attended Obama's State of the Union speech in January. One memorable oral history came from a white man who in 1965 had been a young trooper in Mobile for the Alabama Department of Public Safety. He was called to Selma that Sunday but was not briefed, simply handed a gas mask and riot gear. "In the moment he just followed what the other state troopers were doing," Walker says, "but he felt so badly afterward that he resigned a month later."

When King led the march to Montgomery on March 21, Willie Walker was in the vast crowd. Sam was there for the final four miles and heard the speeches. He spent the early days of the march cleaning up campsites after others had left so the local authorities would have no grounds for criticism. "It was a duty that you took pride in," Walker says.

Decades later, after a stint in the Army and a job in the California Department of Corrections, Walker again became a civil rights volunteer, although this time it was by accident. In 1992 he was injured in a car crash in California and came home to Selma to recover. Locals and civil rights veterans were starting a museum, and Walker, with time on his hands, pitched in. After the museum opened, however, a staffing problem nearly doomed it. "Everyone else had a full-time job," Walker says. "I said, 'It doesn't make sense to have a big grand opening and now the doors are locked.' They said, 'We don't have the money to pay you.' So I volunteered."



By the time his insurance settlement was paid out and he had fully recovered, he was an institution at this institution, so the museum found the money to make him an employee. When Walker, who handles about 80 percent of the museum tours, can't make it, Lawrence Huggins, his high school coach and physical education teacher, steps in. Now 79, Huggins also brings a unique personal perspective. When the students started marching in January 1965, most adults stayed away. Everything changed after January 22 when 105 local black teachers, led by Reese, put their jobs on the line and marched. Huggins was at the front of the line and took a baton to the stomach from one of Clark's men on the courthouse steps.

"The Teachers March brought a new dynamic to the movement," says Huggins. "More adults got involved after that."

Walker says Obama's election in 2008 drew new attention to the civil rights movement and the museum, adding that when the election night polls closed in Selma, locals marched across the bridge and said a prayer of remembrance "for all the people who had gone ahead of us and all the work they had done to make this possible."

Not surprisingly, he adds, DuVernay's movie has been a boon to the museum: "The day after the release we had huge crowds." And Walker's work has taken on a new urgency since the Supreme Court's 2013 decision to invalidate part of the Voting Rights Act, which allows the stripping away of vital protections earned with sweat and blood in 1965.

This year's Jubilee should draw tens of thousands to Selma. There will be bands, a street fair and a film festival, but Walker emphasizes that "this is an activist celebration. We'll be inviting people to join the movement, to do some real work."

Reese is hopeful that the Jubilee can persuade people in power to "step forward and make sure our rights and these memories are protected." The schedule includes workshops

and panels on poverty, mass incarceration and, of course, voting rights; they'll be held in regional schools on Friday and for the general public over the weekend. "This time we need to expand our movement to try and elevate issues like economics, education and police brutality," Walker says. (Other events include a mock trial and a play about Jimmie Lee Jackson, the activist whose brutal murder in nearby Marion at the hands of law enforcement helped spark the Selma marches.)

That Sunday afternoon, everyone will march across the Edmund Pettus Bridge. On Monday, those who are marching the 54 miles of highway to Montgomery will begin their long journey. "There's no question that this year's march is more important now that the Voting Rights Act is endangered," says Ralph Worrell of the Southern Christian Leadership Conference. "We're putting a lot of emphasis on this campaign—it is as significant as it was in 1965."

Walker adds that the movement will not end with the march to Montgomery; the protections of the Voting Rights Act need to be restored with new legislation. "We have to continue to pound on Congress to take action," he says, prepared once again for a long journey.





CBS

## *HACKING AND HEWING ON 'CSI: CYBER'*

**"FROM A FAX TO A COMPUTER...TO SIGNALS SENT  
OVER TOWERS, THE [CRIMINAL] POSSIBILITIES ARE  
ENDLESS."**

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More than 20 years ago, DNA forensics appeared to implicate O.J. Simpson in the stabbing death of his ex-wife, Nicole Brown Simpson, and a waiter, Ronald Goldman. Despite abundant evidence—a bloody glove, blood drops, hairs, carpet fibers—the prosecution faced a major hurdle in convincing the jury to convict him, in part because jurors



lacked understanding of forensic science. Simpson was acquitted.

In 2000, five years after that famous trial, a television show called CSI: Crime Scene Investigation premiered. Audiences were led under the yellow tape and into the world of forensic science for the first time. Set in Las Vegas, each episode began with the discovery of a body and followed a team of investigators collecting and analyzing evidence, questioning witnesses and catching bad guys.

The show's overwhelming popularity led to two spin-offs: CSI: Miami in 2002 and CSI: New York in 2004. By 2007, the CSI franchise had become a cultural phenomenon; it had not only beaten out the competition in viewership but had successfully injected a new vocabulary and grasp of forensic science into the public consciousness.

In 2010, the creators began brainstorming a fresh iteration that would both venture into uncharted "edutainment" territory and attract huge audiences. (The original series' viewership is decreasing, while the spin-offs are gone.) Their zeitgeisty creation, CSI: Cyber, makes its debut March 4 on CBS.

CSI: Cyber follows FBI Cyber Crime Division investigators led by cyberpsychologist Avery Ryan (Academy Award–winning Patricia Arquette). The team works on the edges of the darknet, the anonymous side of the Internet, solving crimes that "start in the mind, live online, and play out in the real world," according to the show's unofficial tagline.

"Our core CSI viewer will see a level of familiarity from the franchise that will comfort them," Anthony Zuiker, the creator and executive producer of the CSI behemoth, said one morning while lounging in an office within CBS's massive complex in Studio City in Los Angeles. Sitting alongside him was showrunner Pam Veasy, a CSI veteran of more than a decade. She explained that while we are undeniably in a digital age, society's understanding of this

technology we use every day is lagging, and CSI is here to help. “I want people to want to educate themselves,” she said, smiling broadly. “From a fax to a computer...to signals sent over towers, the [criminal] possibilities are endless.”

But not everyone felt the type of education the original CSI provided was a force for good. During the franchise’s zenith, social pundits noticed a disturbing trend. Critics claimed that the series’ exaggerated portrayal of forensic science caused jurors to place undue weight on forensic evidence. Dubbed “the CSI effect,” this phenomenon became increasingly worrisome as scientists began criticizing forensic specialties—like the bite-mark analysis that sent many people to prison—as junk science.

Something similar could go wrong with CSI: Cyber. For starters, cyberpsychologist Ryan, who profiles both cybercriminals and their victims on the show, oversees a pretty unrealistic team. One of the members is hacker Brody Nelson (Shad Moss, who is better known as early-2000s rapper Lil’ Bow Wow); the backstory is that upon his arrest for tapping into the stock exchange and wiring a half-billion dollars to his bank account, Nelson was given the choice of using his skills to help the agency or going to prison.

He is joined by another reformed cybercriminal, Raven Ramirez (Hayley Kiyoko of Scooby-Doo!), who serves as the team’s resident social media and cyber trends specialist. These turned-good tech whizzes are accompanied by another hacker, who has always worked for the government, Daniel Krumitz (Charley Koontz).

A real-world problem: Not only does law enforcement not (openly) employ criminal hackers but the show’s depiction of what they do is not tethered to reality. Hacking is a pretty boring thing to watch. It involves many hours, days or even weeks hunkered over a computer staring at lines of code. Detecting breaches is also no easy feat. But in CSI: Cyber, lines of text are color-coded: Good code appears

in green, the malware appears in red, allowing the team to maneuver through computer systems in seconds.

Zuiker called it the cyber equivalent to when CSI: Cyber's predecessors would follow a flying bullet into a body, tracing back the steps of how it happened. "We have a whole new version of that in terms of how we go inside computers," he said.

"Four people staring at a screen for 47½ minutes is not compelling television," James Van Der Beek added, "which is where I come in." Van Der Beek plays FBI Agent Elijah Mundo, a former military man who chases the criminals.

Another of the show's shortcomings is that it has a government bias. Ryan's character is inspired by the work of real-life cyberpsychologist Mary Aiken, who is also the show's main adviser. Having worked with law enforcement groups from Interpol and Europol as well as the U.S. government, Aiken knows firsthand how today's digital tools can be exploited by criminals lurking in the Internet's darknet. But her ongoing relationship with law enforcement also informs how criminals are depicted on-screen. "Before I took on this job," she said, "I went back to law enforcement and asked, 'What do you think of [CSI: Cyber]?' and they said, 'It's an incredible platform to reach out to a huge number of people.'"

And why wouldn't they be happy? Though reports have uncovered mounting instances of law enforcement circumventing warrants to conduct digital searches, Aiken says that on the show the FBI agents "always have to get a warrant...if they want to engage in surveillance."

Representing law enforcement as the unequivocal "good guys" is also reflected in the fact that the creators have no intention of delving into issues that expose government wrongdoing, such as the recent reports of insidious surveillance by agencies of all stripes. "We are not here to make political statements," Zuiker explained.



But that claim of neutrality is an implicit statement. The show's other lead adviser, James Aquilina, also has deep ties with government. In his current position as a member of the executive management team at Stroz Friedberg, a global digital risk management and investigations firm, Aquilina supervises digital investigative assignments for multiple entities, including government agencies. He also helped establish and run the legal section of the FBI's Emergency Operations Center following the 9/11 attacks.

In fact, when preparing for his role, Bow Wow said, "I didn't speak to one hacker, actually." But what a hacker might have told Bow Wow is that forces working against government interests are not necessarily the bad guys. Some would argue, for instance, that former National Security Agency (NSA) analyst Edward Snowden, who exposed the government's secretive mass surveillance infrastructure, did American citizens a great service.

Throughout the show's creation, advisers partial to law enforcement were the ones asked for guidance in portraying cybercriminals, molding what constitutes a crime and reflecting how cybercrime is investigated and prosecuted. This mass-disseminated message will inevitably affect the public's understanding of the Web.

For instance, characters on the show often refer ominously to the "dark Web" without fully explaining what it is. This leads the viewer to believe it's a sinister place, as the show's focus is on crimes that occur there. But Tor, the common software used for anonymous communication in this part of the Internet, was created by the U.S. Navy. To suggest that all darknet activity is lascivious and that those lurking in its shadows are the primary threat bolsters the government's claim of benevolence.

After Apple and Google announced in September that their operating systems would be encrypted by default, rendering devices impenetrable without the owner's pass code, law enforcement was quick to condemn the move. FBI

Director James Comey said in a major policy speech that by not creating backdoor access, the agency would effectively be left in the dark and unable to properly combat crimes. Like the show itself, such declarations are a smokescreen for government activity.

For instance, it has been widely reported that government agencies are finding “zero days,” which are undiscovered software vulnerabilities that can be exploited (like in operating system software), and not sharing their existence with manufacturers. By doing so, agencies are placing their own desires, in this case their ability to snoop, ahead of citizens’ cybersecurity—just like the hackers being vilified on the show. As the nation gets drawn into more and more debates on cybersecurity—deciding the proper balance between protecting American civil liberties, Internet security and the ability of law enforcement to do its job—CSI: Cyber’s skewed representation of hacking and cybercrime could work in the government’s favor.

Just weeks ago, a jury convicted Ross Ulbricht, a 30-year-old Texan, of being the mastermind behind Silk Road, the notorious darknet drug market. The FBI used what some consider questionable investigative tactics to catch him, including breaking into a secure Internet browser without a warrant.

As the Silk Road trial began, it was clear that the jury’s technological knowledge-gap would be exploited by the government’s prosecutors. In opening statements, they referred to the Tor-hidden market as “a dark and secret part of the Internet,” while the defense said it could be used for “legitimate means”—to exchange goods outside of the government’s purview. And Ulbricht has repeatedly said that Silk Road was his attempt to create a truly free and open marketplace, one beyond the regulations and snooping of government agencies. Ulbricht was found guilty of seven charges—including narcotics trafficking, money laundering and computer hacking—and faces at least 30 years in prison.

“In 15, 20 years everyone will know what malicious script is and never to click on a pop-up that says to update your software,” Van Der Beek said with optimism. But if CSI: Cyber also makes it easier for the NSA to drill down further into your life, will it have been worth it?





Wireimage/Film Independent

## TALKING PICTURES

**PERFORMANCES HAVE INCLUDED AN ALL-BLACK "RESERVOIR DOGS" AND AN ALL-FEMALE "GLENGARRY GLEN ROSS."**

A short time ago, in a galaxy not so far, far away, J.K. Simmons played Darth Vader in *The Empire Strikes Back*. Before *The Interview* caused an international incident, Seth Rogen starred as The Dude in *The Big Lebowski*. And before she had her own TV show, Mindy Kaling played Buttercup in *The Princess Bride*.

This is all true. And none of it happened in an alternate universe. It all went down at Film Independent at LACMA

Live Read, a series at the Los Angeles County Museum of Art that runs (roughly) from September through March every year. On the third Thursday of each of those months, director Jason Reitman and Film Independent curator Elvis Mitchell assemble Hollywood actors to read scripts from classic films live onstage for a small audience of supporters.

There is no rehearsal, the actors are unpaid, and sometimes they haven't even seen the films they're re-creating. Some have never even been in front of a live audience. Reitman reads the stage directions. The performances are not recorded. These are one-night-only events and frequently sell out in minutes. The casting is inspired. Picture an all-black *Reservoir Dogs*, or an all-female *Glengarry Glen Ross* or *American Pie* with all the gender roles reversed. "It's like seeing a really great supergroup do covers of your favorite songs," says Mitchell. "Jason is an old friend, and when I told him I was taking the job as film curator at LACMA, he said, 'I have the perfect idea for you, something I've always wanted to do.'"

The initial idea was to use scripts for films that either didn't get the kind of critical love they deserved or failed to become popular successes. Mitchell says he and Reitman selected around 800 contenders and soon narrowed those down to the first season's offerings. For the maiden offering, "I wanted to pick something that would be an odd thing to see in a museum, and that was *The Breakfast Club*," says Mitchell. "And it took off from there."

Now, midway through its fourth season, Live Read has had a few milestone moments. Perhaps its biggest came last month, when the event, usually held at LACMA's 600-seat Bing Theater, moved to the 1,600-seat theater at downtown Los Angeles's Ace Hotel for a reading of *The Empire Strikes Back*, starring *Breaking Bad*'s Aaron Paul as Luke Skywalker, Jessica Alba as Princess Leia, and Ellen Page as a gender-swapped Han Solo.

The more expansive venue gave a bit more grandiosity to Live Read's typically minimal staging, and also allowed the evening's Vader, J.K. Simmons, to walk down an aisle to the booming "Imperial March" theme while surrounded by a phalanx of costumed Stormtroopers, like a prizefighter entering the ring.

Simmons's entrance wasn't the only surprise. While the main cast is usually announced by Reitman via Twitter a day or two before the performance, certain roles were still secret for this show. Playing Chewbacca—"and only Chewbacca," as Reitman clarified (sometimes actors perform more than one role)—was surprise guest Rainn Wilson, who punctuated the proceedings with the Wookiee's trademark howls.

Finally, in the kind of role reversal that Live Read does so well, Reitman introduced Mark Hamill, Luke Skywalker himself, in the roles of the Emperor, Obi-Wan Kenobi and Boba Fett. The crowd went nuts. Vader may be Luke's father, but in this moment, it was Hamill who seemed to be saying to the standing crowd, "Who's your daddy?"

Star Wars fans mainly focus on the heroism and tragedy in *The Empire Strikes Back*, but it has a lot more going on than that. Mainly, the romance element, and C-3PO's comedic interruptions of that element (probably written to keep children interested during all the gross kissing). So while Page and Alba gave the Han and Leia relationship a new dynamic, an even more interesting thing happened with C-3PO, who was imbued with a more modern, neurotic quality by British comedian Stephen Merchant.

"I think everyone would take away [from the movie] that C-3PO was charming and funny and annoying, but not necessarily a comedian," says Kevin Pollak, a Live Read regular who portrayed Yoda for the Empire reading. "When you put him in the hands of a comedian, you suddenly are enhancing all of the comedic rhythms."



Despite Pollak's facility with voices—in his stand-up he's known for doing everyone from William Shatner to perhaps the world's first (and best) Christopher Walken—his Yoda wasn't just an impression. "He was doing Frank Oz's voice," says Mitchell, "but there was a pathos in that performance that I don't think you'll find in the original Yoda."

"It was more fun for me to play it straight," Pollak explains. "I knew that just doing the voice would get laughs because it's silly, but I thought if I could actually pull off the drama of the scenes while within the impersonation, then that would be the greatest achievement, and I think I got pretty close."

Not that Pollak always plays it straight. "Skewing any material is always fun.... I love any opportunity to make fun of everything I've done, even [roles] that are part of so-called cinematic history," he says, referring to his role in *The Usual Suspects*. A few seasons ago, Pollak took on Gabriel Byrne's role in the Live Read version of that script, while Mark Duplass (*Togetherness*) played the role originated by Pollak. "It was so beautifully surreal," says Pollak.

"I don't want to say that it's the best live theater in Los Angeles," says Mitchell, a former New York Times movie critic, "but I do think that it works in the same way as theater does. So many people here see movies and they don't really get a sense of how an actor can shape a performance from beginning, middle, to end. And so this is a chance to see that."

People who initially doubted the viability of the concept are calling Mitchell for tickets, and the idea is being imitated. After Sony pulled *The Interview* from theaters in December, a troupe in New York put on a reading of the script. And the tropes of Live Read have already been parodied a few miles away from LACMA at Los Angeles's Upright Citizens Brigade theater, which did a Live Read of

the admittedly terrible script for the Michael Jordan-meets-Looney Tunes movie Space Jam.

“The more iconic the film, the more iconic the memory of the scenes and specific quotes,” says Pollak. “Backstage, before we did Empire, I found out about Goodfellas being the next one, and I asked Jason, ‘What’s the date, because if I do [Joe] Pesci, you’re gonna pass out.’”

Pollak, unfortunately, was out of town for the Goodfellas read. “There are very few films that have been quoted as often as Goodfellas,” he laments. “So that’s one of the greatest things that these live reads can do, is allow people to hear their own favorite lines sort of reinvented and fucked with a bit.”

Pollak then launches into a profanity-laden Pesci impersonation that I am keeping on my iPhone voice recorder for posterity.

Good luck to the clown who had to fill his shoes for that Live Read.

01

## FENCING MATCH

Tijuana, Mexico - A woman weeps as she visits with family members through the border fence along the U.S.-Mexico border, February 22. Senior Republican senators said they expected Congress will avoid a shutdown over the Department of Homeland Security, which faced a partial shutdown on February 27 over a GOP push to roll back President Barack Obama's executive actions on immigration. A federal judge blocked the president's action that would allow more than 4 million undocumented immigrants to live and work in the U.S. without the threat of deportation.



Sandy Huffaker/Getty



02

## MALL RATS

Mogadishu, Somalia - Government forces search for al-Shabab insurgents following weeks of escalating violence in the capital city, February 18. The Al-Qaeda-affiliated rebels are fighting to overthrow the country's government and attacked a luxury hotel, killing at least 25 people, including a deputy mayor and two members of Parliament. The group, which was responsible for a 2013 attack at the Westgate Mall in Nairobi, has called for "lone-wolf" attacks on shopping centers in the U.S., Canada and the U.K. and singled out the Mall of America, located in a region of Minnesota that is home to the largest Somali-American community in the U.S.





03

## SMELLS LIKE REBELLION

Caracas, Venezuela - On the anniversary of the arrest of Venezuelan opposition leader Leopoldo López, protesters in the upper class enclave of Chacao took to the streets to demand his release after a year of imprisonment on February 18. While some protests were peaceful, demonstrators clashed with the National Guard and burned barricades of garbage as people hurried home from work. Some locals threw bottles and stones from their windows, showering the National Guard with debris as they cleared away the smoldering barricades.



Natalie Keyssar



04

## *AN EMPTY SHELL*

Lugansk, Ukraine - Pro-Russian separatists march past a spent artillery casing near the abandoned, frontline village of Sanzharikka on February 15. Kiev accused rebels of opening fire on villages in southeastern Ukraine, all but burying a week-old European-brokered cease-fire deal. The pro-Russians ignored the agreement to capture the strategic town of Debaltseve.



Maximilian Clarke/Demotix/Corbis